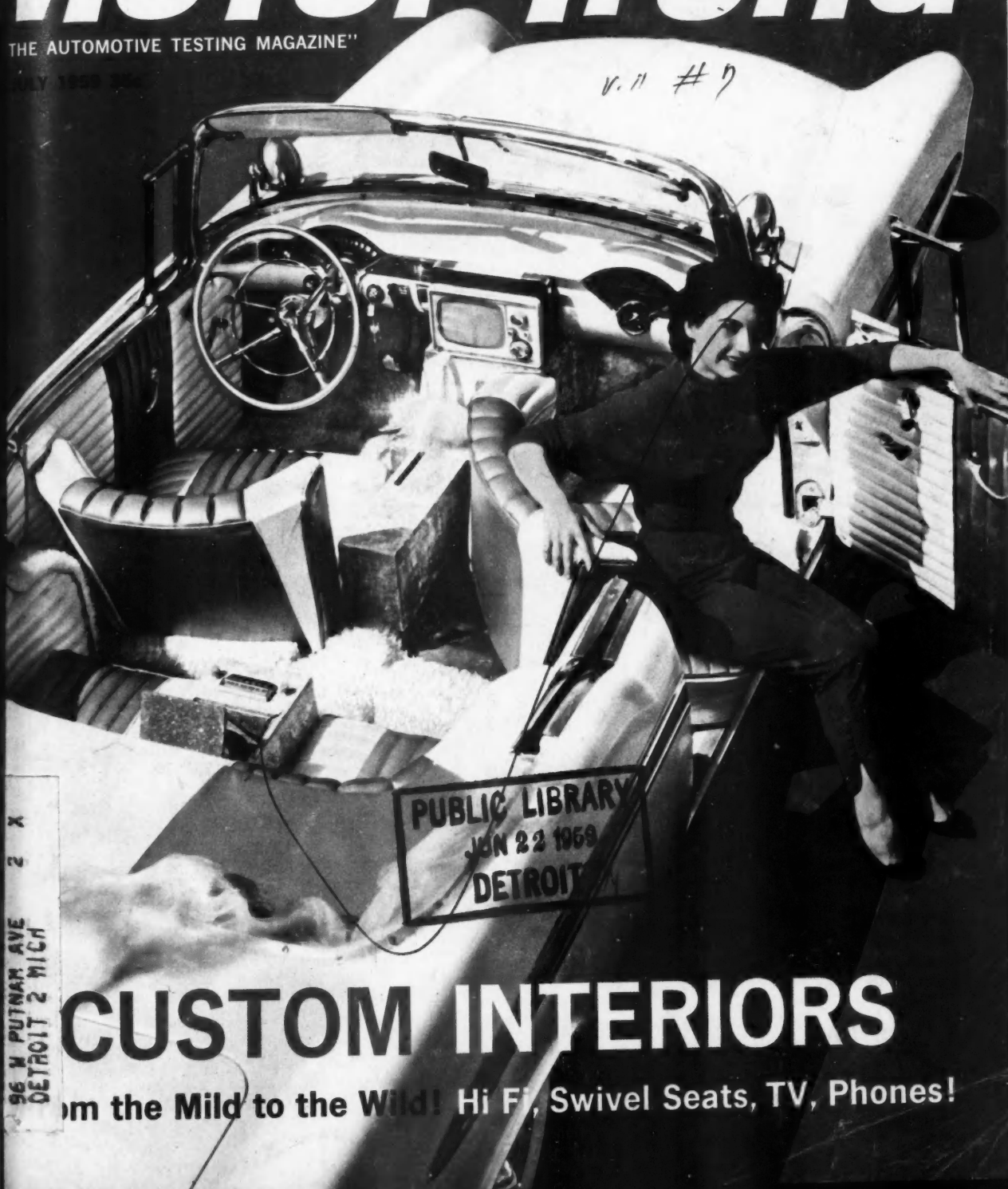


BEST BUYS IN USED CARS

Motor Trend

THE AUTOMOTIVE TESTING MAGAZINE"

JULY 1968 \$3.00



96 W PUTNAM AVE
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CUSTOM INTERIORS

From the Mild to the Wild! Hi Fi, Swivel Seats, TV, Phones!

BRITAIN'S VAUXHALL



The smartly styled car from the craftsmen of England sold and serviced here by Pontiac dealers

British good taste and craftsmanship are reflected in every line of the Vauxhall. It's beautifully styled inside and out. And there's a noticeable quality of workmanship in the way it's built and trimmed. The body is tight and solid. The interiors reveal careful tailoring and painstaking hand work.

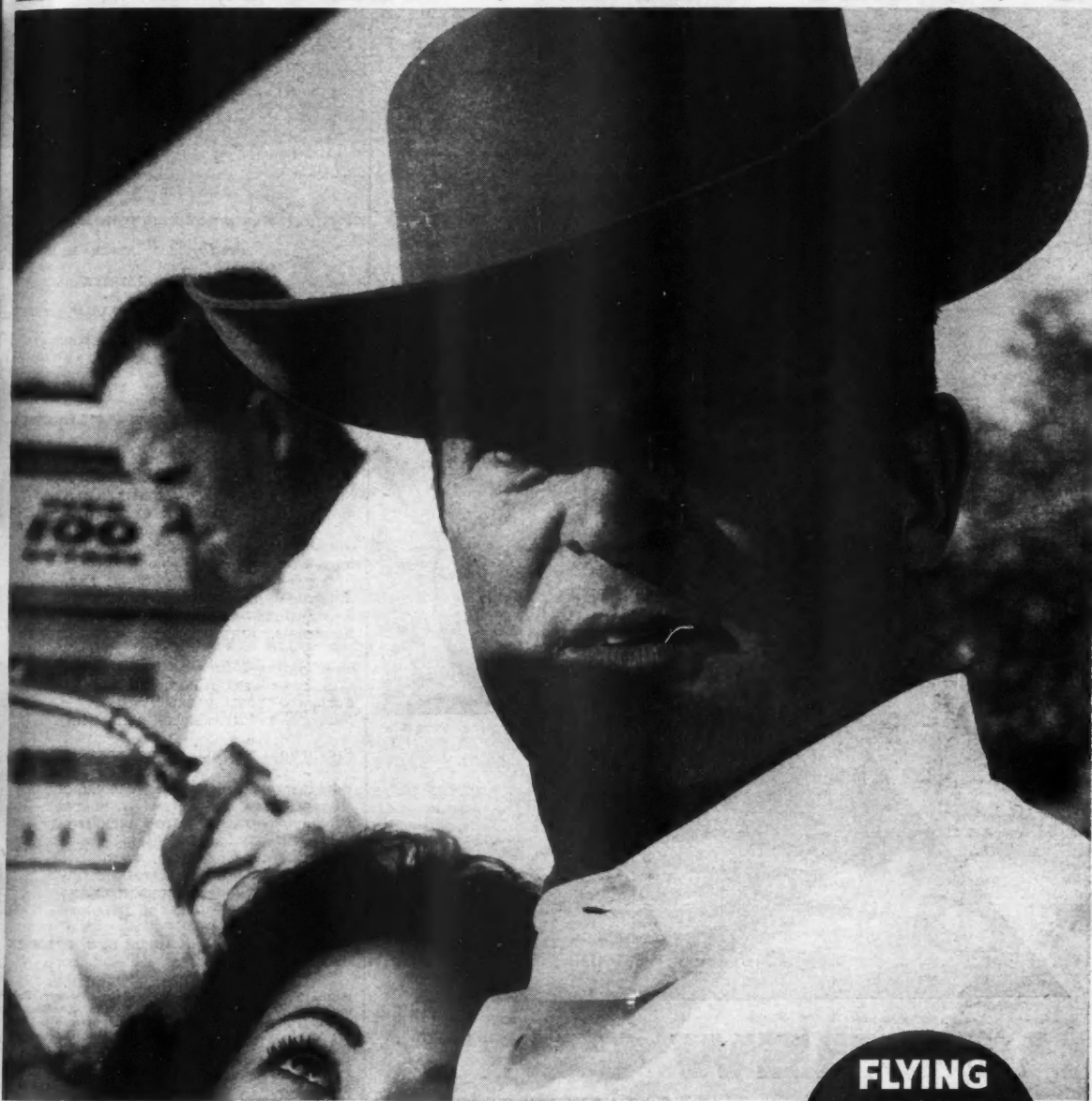
The Englishmen who make the Vauxhall understand American demands for convenience, too. They give you top-hat roominess for five, plus vacation-size

luggage space. There's an abundance of visibility in the wrap-around windshield and rear window. And there's nothing new to learn with its standard American gearshift. It's quite frugal in its use of gasoline, delivering up to 35 miles on each gallon. Sold all over America by Pontiac dealers, Vauxhall service is always just around the corner.

Built in England by General Motors, the Vauxhall is far and away your best import buy.



A man with drive



gets Flying A



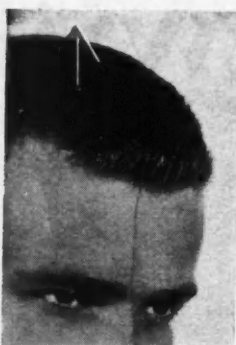
- There's more in it: (1) Highest octane for more power, better mileage.
(2) The first gasoline over 100-octane that doesn't cost you extra.
(3) Clean burning—the cleanest ever refined! (4) Never a knock in any engine.

Reason: Flying A comes from the most modern refinery in the world.

TIDEWATER OIL, THE "FLYING A" COMPANY—FORMERLY TYDOL

MOTOR TREND/JULY 1959 3

Keep it up...
Keep it down...



Keep it clean cut!



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hair dressing by Max Factor

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arrangement—wispy, wiry, or wavy—your hair will stay put
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hair, that is... because Max Factor made it that way.

now in tubes and jars... **59c** plus tax

MAX FACTOR

COVER: This plush living room on wheels is "Golden Corona," owned by Joe Boliba of Niles, Calif. A consistent show winner, it is basically a '36 Chevy, with special interior by Jerry Seaberg. The girl is Barbara Peters. Anso color by George Barrie.



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Motor Trend

"THE AUTOMOTIVE TESTING MAGAZINE"

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SPECIAL REPORTS ON: Air Cars, Gas Turbines, Electric Cars
Customizing to Customfit your Pocketbook—from \$5 to \$500
Road Tests, Driving Impressions—New Imports, U.S. Cars

SAM HANKS, 1957 Indianapolis Winner, says:

"I'd like a **NATIONAL SCHOOLS**
trained mechanic on my crew
...any employer would!"

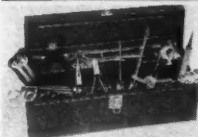
Sam Hanks holds American
Closed Course record (182.5
M.P.H.); also many state and
national racing titles.



MASTER ALL ENGINES
AT HOME IN YOUR SPARE TIME
NATIONAL SCHOOLS
AUTO MECHANICS & DIESEL
COURSE
INCLUDING FUEL INJECTION

"I've worked alongside National Schools-trained mechanics," reports Sam Hanks. "They're tops, because they get all-around training, and they know how to repair fast and right the first time. No wonder National Schools graduates command top pay."

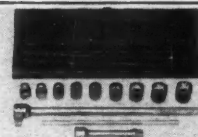
YOU GET AND KEEP ALL THIS EQUIPMENT



Complete set of professional tools and All-Metal Tool Box. Same top-quality equipment used by expert mechanics everywhere. Use them, display them proudly.



"Motor Analyzing Set" contains Standard Engine Vacuum Fuel Pump Tester, Remote Starter Switch, Modern Timing Light, Standard Compression Tester. Plus compact carrying case & instructions.



Top-quality Socket Wrench with Fittings. Real professional tools you'll use during your lifetime career in repairing all types of engines, from foreign cars to big diesel jobs.

COURSE COVERS: all engines, fuel injection, automatic transmissions, overhauling, customizing, servicing and maintenance.

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Special

**Prevents hot-weather
vapor lock... gives instant
starts all year long!**

Now is the time to get positive protection against vapor lock that causes your car's engine to balk and stall. During June, July and August only—Stewart-Warner offers you this top-performing electric fuel pump at \$2.00 off list price! Here are just a few of the advantages that make the Stewart-Warner 220-A Fuel Pump your best buy:

Operates independently of engine! Fuel pump action accelerates when vapor appears in fuel line. Maintains an increased fuel flow until vapor is expelled.

Self priming! Starts operating the instant ignition switch is turned. Fills carburetor float bowl before starter turns engine over. You get smoother flow, less battery drain, better mileage.

For cars, trucks, buses! Designed for use on any gasoline engine. 6-volt and 12-volt models.

Visit your service station, garage, or
automotive parts store today!



Dept. AL-79 1840 Diversey Parkway, Chicago 14, Ill.

6 MOTOR TREND/JULY 1959

FOR CONTORTIONISTS ONLY

Sir:

Automotive designers need to learn that new-car buyers are not lured by being asked to forego comforts and conveniences to which they have become accustomed.

A salesman, using a car in his work, is not intrigued by the thought of going through distortions and gyrations somewhat similar to those required to wriggle in and out of



a strait jacket every time he enters or leaves his vehicle. He feels frustrated every time he raises his eyes to glance into the rear vision mirror, only to scrape his hat, inadvertently, against the top.

Similarly, he abhors the thought of lifting samples or luggage over a high lip at the trunk edge, when he has been sliding same out at bumper level. He is reluctant to pay 35c to park 10 minutes in a lot, merely because his car is too long to squeeze between two parking meters.

J. Donald Carter

Indianapolis, Ind.

JUST WHAT THE COUNTRY NEEDS

Dear Sirs:

Concerning the small car controversy, I have noticed that virtually all publicity concerning the Opel is very carefully worded and seems to pointedly omit mention of the Kapitän. I am aware of what GM is rumored to be planning, and in my opinion the style, quality and size of the Kapitän body teamed up with an air-cooled six of about 90 hp is just what this country is waiting for. Particularly desirable is an engine with the design principle and ruggedness of the VW engine.

The simplicity and complete lack of attention required by the air-cooled engine is the answer to some of the heftics of modern living—no anti-freeze, no water pump, no hoses to leak, no gasket problems, no thermostats, no leaky radiators, etc. This is the equipment that requires a majority of the routine maintenance.

Maj. O. E. Wood

Greenville, S. C.

THE SPACE AGE

Gentlemen:

The opinions of some people toward 1959 General Motors cars are unjust and unfair. If they hate rocket-looking models they'd better

TOPS IN UNORIGINALITY

Gentlemen:

The Olds F-88 III is a beautiful example of clean, uncluttered and unoriginal styling. I'm sure any customizer could turn out a T-Bird that would look as good.

Victor Charles

Los Angeles

A DE-SCRAPER, DE-CRUNCHER

Dear Sir:

The most useful thing the car makers could add to modern cars would be a set of rollers built into the underside of rear bumpers. Such rollers would eliminate the sickening scraping and crunching sounds as well as damage to the long rear overhangs on cars when they are driven over dips and rises in curbs and driveways.

R. Blagden

East Hampton, Conn.

IN DEFENSE OF CUSTOMS

Dear Editor:

Many people think customizing is turning a basically beautiful car into a gaudy mess of steel with a noisy engine. This way of thinking has absolutely no foundation at all.

A good custom may have more prestige than a Cadillac. The Cad is an assembly-line car, where a 1950 Ford convertible which has been chopped, sectioned and lowered is truly a classic if these things have been done with a bit of sanity.

Douglas Hargrove

Walsenburg, Colo.

"STEAMED UP"

Dear Sirs:

I believe that today, with the materials already developed, a properly designed steam powerplant can be made which will, on application specially suited, outdo the gasoline and diesel engines, and the first cost will be very much less than either.

Few people today have any accurate idea of what a Stanley steamer would do. I have seen a medium-sized one carry four large men and a full load of 600 to 800 pounds of water right along a road four to six inches deep with sand and dirt—not fast, but at least 20 miles per hour. The total weight of this car must have been at least 3500 pounds.

Ralph H. Owens

Omaha, Neb.

go back to living in caves, because progress cannot be stopped. Today cars are following progress, and rockets are our biggest progress since man started to fly.

Don Pecic

Sewickley, Pa.



UNKNOWN

Dear Sir:
I see showing unknowns lieve it much as facturers luxury i public
My
Three pu demand and profit too. I'm but I am out about W. T. E.

WHY AM

Dear Sir:
I am a smaller, has both the foreign of the fr and try products, as America even tai what loc mobile d car.



With see the Volkswag To my n look like canization and has Barry M

BULK BUY

Dear Sir:
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Here's ones and Fred Nov

WILLING

Dear Sir:
I woul horsepower more mil I do n can make Mercedes price. Bu a darn si There would be English, did not h of excess Roger M

UNKNOWN QUANTITY—SMALL CARS

Dear Sir:

I see indications that some gray hairs are showing throughout the industry over the unknown quantity—small cars. I don't believe it really is an unknown quantity so much as it is a frightening reality to manufacturers dedicated to producing large and luxury items—now face-to-face with a fickle public and dividend-loving stockholders.

My own prediction is that domestic Big Three producers will not be able to meet the demand for small products for a few years, and profits will nevertheless get a hard squeeze too. I'm not a dissatisfied owner of a gas-hog, but I am convinced that "common sense" lost out about four years back.

W. T. Basore

Oklahoma City, Okla.

WHY AMERICANIZE?

Dear Sirs:

I am all in favor of the current trend toward smaller, more economical cars, but one thing has bothered me. It seems that a number of the foreign manufacturers are almost ashamed of the fact that they are making small cars and try to hide this, not by enlarging their products, but by adding such "improvements" as American-style two-tone paint, chrome, and even tail fins. It goes without saying that what looks good on a large American automobile doesn't necessarily belong on a small car.



With this in mind, I was very pleased to see the beautiful drawings of the proposed Volkswagen by Del Coates in the April issue. To my mind, this is what a small car should look like. There is no attempt at "Americanization," yet the car is truly distinctive and has a beauty all its own.

Barry Mackintosh

Lewiston, Me.

BULK BUYING

Dear Sir:

I am now driving a 1955 Chevy Six which will still run over 95—a low-powered car, you understand. In my opinion, it looks good, like an automobile should.

Now that I am beginning to think about a new car I find that Chevy along with all competitors has grown from a full-size car into a monster. I would much prefer less rather than more bulk in my next car.

Here's wishing more power to the little ones and stuck valves to the "power packs."

Fred Novey

Dallas, Tex.

WILLING SACRIFICE

Dear Sir:

I would be quite willing to sacrifice 200 horsepower and 4½ feet of width for 10 or more miles per gallon of go-juice.

I do not believe, however, that Detroit can make a car as rugged as, say, the Jaguar, Mercedes, Rover, Citroën, at a reasonable price. But they can come mighty close, and a darn sight closer than they are now.

There are many American car buyers who would be buying American cars instead of English, German and French products if they did not have the 150 excess horses, 30 yards of excess fins and three feet in excess length.

Roger M. Woodbury, Jr.

Natick, Mass.

GERMAN MADE

Germany's popular precision-built car, Opel offers refinements unique in a car priced as low as this one. It's a practical family-size, economical small car import with American big-car ideas.



AMERICAN STYLE

You'll be amazed that any small car import could let you enjoy so much roominess, so much space to store things, so much big-car feel. Get Opel's illustrated brochure at your Buick Dealer's.



THIS IS OPEL

Up to 30 miles per gallon. Seats 4-5 . . . over 12 cu. ft. luggage space. 56 horsepower, 4-cyl. engine. 174 in. long, a little over 5 feet wide. Opel Rekord 2-door sedan, MANUFACTURER'S SUGGESTED RETAIL PRICE \$1987.50 P.O.E. New York*. Also available: Caravan station wagon.

*Including heater, defroster, turn indicators, delivery, handling, Fed. excise taxes.) Transportation charges, state, local taxes, accessories and opt. equipment inc. whitewall tires additional.

THE BIG SMALL CAR BUILT IN GERMANY BY GENERAL MOTORS—SOLD AND SERVICED ALL OVER AMERICA BY

BUICK DEALERS

MOTOR TREND/JULY 1959 7

Living Around



RAMBLER, BORGWARD, STUDEBAKER LARK—THREE CARS THAT HAVE PRACTICAL SIZE, MANEUVERABILITY, ECONOMY MORE & MORE PEOPLE WANT.

THE SUBJECT OF SMALLER CARS, compact cars (call them what you will, they're actually "practical-size cars") will be coming up with increasing frequency in the next several months. And while the Big Three start touting their "discovery" of this new market (that share of the American motoring public which hungers for cars that aren't monstrously big, that provide a reasonable interior package and give good economy of operation), the "Little Two" have been doing a fine job of providing just such cars.

We at MOTOR TREND are probably in a better position to compare the hundred-and-one cars built here and abroad in more varied conditions than any one other organization. This enables us to discuss and evaluate the cars in various lights. This, coupled with brickbats and bouquets thrown at today's cars by our readers, gives us a chance to observe trends in design and buying habits.

Right now we feel that the pendulum is swinging from the overly-long, overly-chromed, overly-fuel-hungry cars that most Detroit manufacturers are building today, to the "practical-size cars." The pendulum stopped at one end of the swing last year when buyer resistance reduced car sales to a profitless low. Then, with the introduction of the Studebaker Lark, more publicity on the economy imports and greater production of Ramblers, the pendulum began to swing in the other direction. And there's good reason for it too, as a comparative check of features will soon show.

As a result of this swing, we felt it was about time to doublecheck on the merit of these practical-size cars, and so we've been as busy as can be driving these types of vehicles: back and forth to the office, on trips out of town, whenever and wherever we can.

As an example, one day, Chuck Nerpel, Len Griffing and I took off on our round-robin course through city traffic, onto a

state highway leading out of town, through hilly country with winding roads, onto a high desert plateau, over mountains as high as 7900 feet and back down through city traffic to our starting point. The three cars we drove, switching back and forth among them, were those you see pictured at the top of this page: Rambler American, Studebaker Lark and Borgward Isabella. The *longest* of the three is only 17 feet overall, or a full foot shorter than a Ford, Chevy or Plymouth, while the *shortest* (Borgward) is under 13 feet. That makes them *practical-size* cars, cars that we feel an ever-increasing segment of the motoring public wants. And that's why you'll be reading about such cars more often in these pages.

• • •

I'M WRITING THIS IN PARIS after finishing a hard three days of driving the new Renault Floridé (to be called the Caravelle in the U.S.). Lots of things about the car are going through my mind, but the most dominant one is the fact that I'm impressed with this new coupe and convertible version of the popular Dauphine.

A prototype of the car was first shown at the Paris Salon in October, 1958. Further refinements took place until the present, when the Renault factory felt it was time to have the press in from all over the world—to see and drive more advanced prototypes.

So a huge operation took place in late spring, during which from five to 10 motoring journalists descended on Paris every three days (over a period of six weeks) to be whisked away to a garage that housed five Floridés. From there they sped at road-race speeds over a charted route to a small town in Brittany, about 280 miles away. The following day, off on their separate ways for another 250 miles or so through beautiful countryside over winding roads, to return to St. Laurent for the trip back to Paris the next day. In all, almost 800 miles of hard driving and the most fascinating way I can think of to try out a new car!

I'll tell you all about Renault's answer to the Karmann-Ghia Volkswagen—next month. Meanwhile, off to Monte Carlo.

• • •



Your editor with a Renault Caravelle—a car to give Karmann-Ghia competition.

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THERE'S A SAYING made popular by a used car dealer in Los Angeles to the effect that "Every car is a used car." Naturally, he's implying that once you drive a new car out of a showroom, it's no longer new—but used. We can't agree with that reasoning in its entirety, though another statement he makes is hard to quibble with, which is, "There are more used cars sold than new ones."

Many car buyers today would rather buy a good used car than any new car. They figure that any bugs the car may have had have been taken out by the previous owner. They also figure (and logically so) that the greatest chunk of depreciation has been accounted for by the time they buy the car. They also feel that they are getting a car much cheaper than they could any new (and comparable) one. (With the influx of the variety of imports this is no longer as true as it once was, causing some concern to used car dealers.) And lastly, there is a definite, and growing, resentment toward today's lower, longer yet less roomy, less economical and more expensive cars.

It's for these people that we've devoted eight pages of this issue to used cars, dealing with the best buys, ways to select them and ways to test them. And for those of you who buy an older car—or already have one—we've called on customizer extraordinary, George Barris, to show you the ways to spruce up the inside of your car. After all, that's what *you* see most of the time. If you follow his suggestions you'll wind up with a car that outshines the '59s and, from what we've heard, even the '60s.

Next month, George will show you what you can do to the outside—from the most reasonable adaptations to those that are "way out."

A CRITICISM WE'VE OFTEN HEARD directed at the imported economy cars is that "They can't even get out of their own way." Though there's a lot of truth in the statement, when applied to the "minicars" and certain other lesser-powered economy cars, a number of accessory manufacturers are doing something about it.

We've previously covered the Abarth kits for Fiat (July '58), the Judson supercharger kit for Renaults (Aug. '58 and June '59), the Paxton supercharger for Volvos and Renaults (May '59), and now we have the Weber conversion kits for the popular Volkswagen.

When you get the chance to drive a VW with high-lift cam and stroked crank you'll think you've gotten into a Porsche. It makes a potent machine out of a pretty docile piece of equipment, as you can see by reading the story on page 69.

Warren



QUIETUNE your engine with

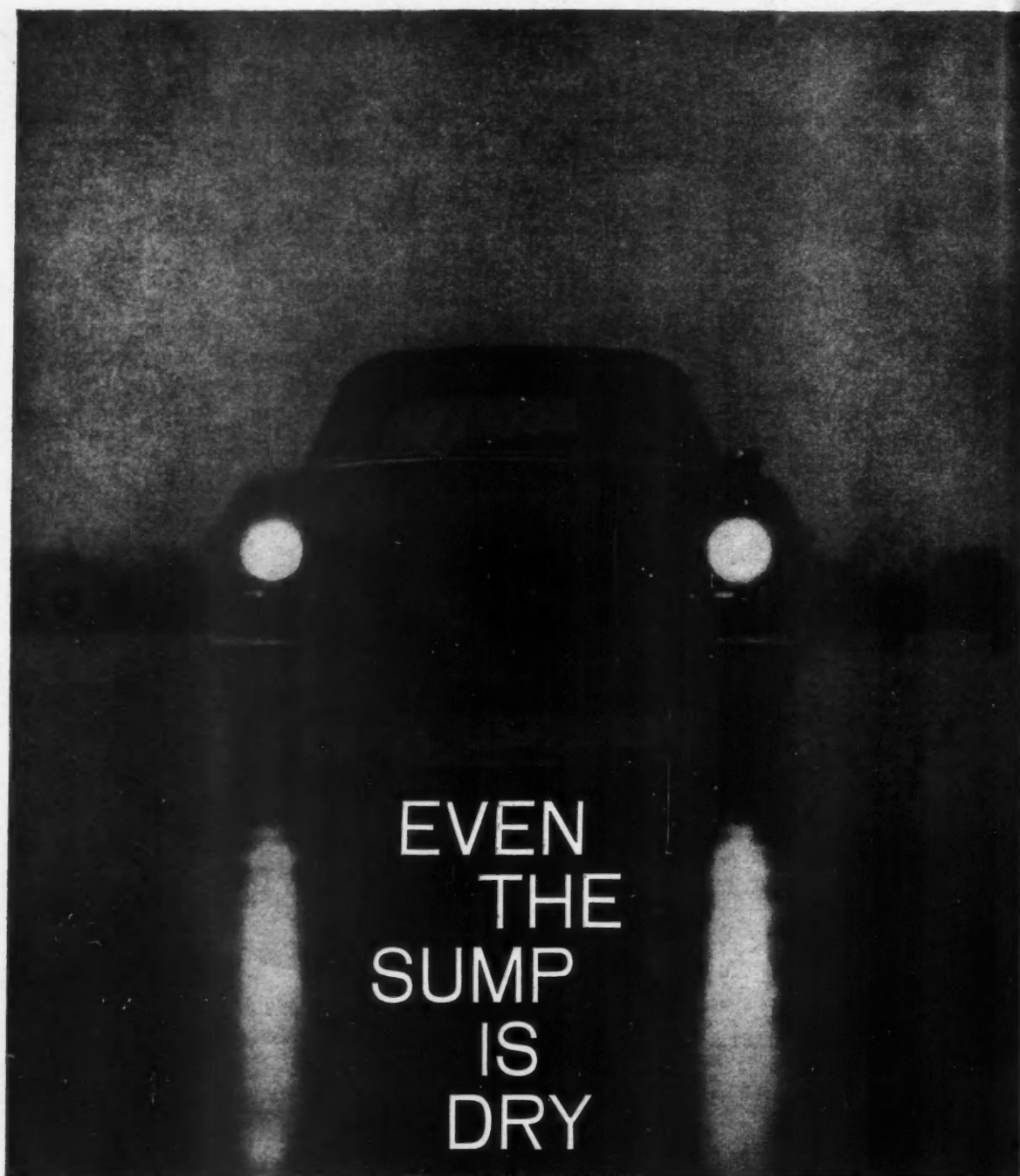


Kendall SuperB gives you quieter, livelier engine performance. It eliminates power-robbing ping and knock caused by combustion chamber deposits. SuperB frees sticking valve lifters and maintains peak engine efficiency. Saves you money on gasoline consumption. Refined from the costliest Pennsylvania Crude Oil, nature's miracle molecule at its best.

Ask your favorite dealer for it



KENDALL REFINING COMPANY
BRADFORD, PENNA.



Dry sump lubrication is a rarity today on all but the most expensive competition cars. However, you'll find it on the Mercedes-Benz 300 SL as standard equipment. It affords the advantage of keeping the oil refreshingly (for the engine) cool, even under sustained high RPM. In addition to a dry sump, you'll find a dry driver and passenger in the 300 SL even under continuous foul weather. The perfection of fit of the top and doors is so excellent that neither rain nor draft intrude on comfort or distract from driving. Nor need owners worry about the effects of torrential rain on Mercedes-Benz electrical systems. You'll find that every Mercedes-Benz keeps right on singing in the rain.

Mercedes-Benz Sales, Inc. (a subsidiary of Studebaker-Packard Corporation)



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by Bill Callahan
Detroit Editor

GM LINES MORE SUBDUED IN '60

General Motors cars will retain same basic inner bodies, but new freshness—with less pronounced fins—will be accomplished through sheet metal changes. Pontiac will eliminate fins altogether. Chevrolet will probably fold them much more closely to the body. Buick is expected to revert to more staid styling, to recapture the vote of former Buick buyers. Cadillac has found considerable acceptance of its moon rocket tail and may continue with something similar. Oldsmobile has had a good year, but designs will be modified with new grille and rear end... '59 ridge-fin will disappear.

FORD TO HAVE NEW BODIES

Ford will introduce new styling motif. Changes will not be drastic, but lines will be more flowing and rounded than in current models. Conservative styling for '59 has paid dividends, and same conservative elegance will be featured with even more subdued fins. Convertible hardtop models will likely be dropped. Large bulls-eye tail lights may be replaced with units similar to that planned for '60 T-Bird—three lights (instead of two) in each of two rear panels. New front corner post design in Ford, Mercury and Edsel bodies will permit easier front entry and exit by removing objectionable overhang of windshield (see drawings on page 20).

CHRYSLER RETAINS BASIC MOTIF

While early reports indicated complete styling switch for Chrysler in '60, current conjecture is that changes will not be so radical. Characteristic fin treatment will be retained, but structurally cars will be different, using "semi-unitized construction." Body (from front sill at bottom of firewall back) will be unitized—with rear wheel housing, quarter panels and rear deck integral parts of body. Front section (engine, suspension, steering) will be separate sub-assembly, joined to stub frame members extending from body. This will permit further lowering of roofline by eliminating present frame members under body proper. Fenders and front wheel housing will also be attached to body as separate sub-assemblies. Same construction will be used on Chrysler's smaller car.

RAMBLERS SHARPLY REVISED

Anticipating a head-on collision with the Big Three's smaller cars, '60 Ramblers will be strikingly restyled. Rear fenders on American will be higher, with upper line running almost straight back. Front ends will be restyled, but only two headlights will be used. Four-door model will be added to American series, but rumored revival of convertible is not true.

On Rambler Six, Rebel V8 and Ambassador models, fins will practically disappear—rear fenders will be flattened on top, with just a hint of fins along outer edges. Front ends will have new grilles and softer lines than on '59s. Same basic interior body will be used.

STUDEBAKER TO STAND PAT

Having enjoyed marked sales resurgence after introducing its Lark model, Studebaker is not expected to make major changes. Grilles and other minor parts may be given slight working over. A convertible will be added.

FALCON, CORVAIR AND VALIANT PLANS

Ford's smaller 6-cyl. Falcon will be offered in 2-dr. and 4-dr. sedans, plus a station wagon—overall length around 200 ins., height 52 ins. Styling is still a guarded secret, but optional trim will be available. Construction will be unitized, with front wheel housing panels and front sill integral parts of body. Fenders may be bolted on for easier repair.

Actual facts are still meager on Chevrolet's Corvaire. According to union sources, production is scheduled for July. Initial quantity: 15,000 units. Aluminum for engine blocks is reportedly being poured by Reynolds in Messina, N.Y. Contrary to earlier reports that rear-mounted flat six would use high-silicone block, word now is "cast-iron sleeves."

Chrysler's smaller line—the Valiant—will be announced much later than Ford's and Chevy's. Latest word is that DeSoto will market it.

SEPARATE DEBUTS EXPECTED

GM's smaller cars may be introduced before their standard lines, while Ford and Chrysler will probably hold off until after the announcement of their regular lines between Oct. 1 and Nov. 30.

Is it OK to wave at a Simca?



Definitely not a question for a boy! At first look-over, a SIMCA seems a wee bit too dang-fancy to merit a waving reception. What with those reclining seats, ash trays, and four doors. But then, Sports Cars Illustrated *did* say that SIMCA "will outperform anything else in its price class." And Mechanix Illustrated *did* pick SIMCA as your "Best Import Buy." And SIMCA *does* hold 14 world's performance records, including the all-time endurance crown.

SIMCA has a 4 speed transmission, with the 3 top gears synchromesh. Throws are short, quick, and positive. Standard equipment on all Super DeLuxe and sports models includes heater, defroster, reclining seats, 12-volt ignition, and UniGard body. Instrumentation includes trip odometer, speedometer, conventional fuel gauge, low fuel flasher, and oil pressure and amp lights. SIMCA is now distributed by Chrysler Corporation, which puts their giant parts and service network on the job.

Go see one. Drive it. Drag it. Speed-shift it. Try to make the brakes fade. Then you'll see what everybody's talking about... and waving at.



SIMCA

Imported from Paris by Chrysler

SIMCA SALES OFFICE
CHRYSLER MOTORS CORPORATION
DETROIT 31, MICHIGAN

the **SIR VIVAL** —a new "safety" car?



Unique swivel design of the Sir Vival makes it hard to believe it stemmed from a '46 Hudson.

With the need for more emphasis on safety these days, we feel it important to report on any development along these lines. Such is the case of the Sir Vival, a "swivel" car built in Worcester, Mass. We assigned our New York Editor, Steve DaCosta, to take a first-hand look and talk to the designer. Here's what he had to report.

—The Editor

WE FOUND THAT SIR VIVAL'S designer and builder, Walter C. Jerome, began his experiments "to eliminate inherent lack of safety in modern car concept." Figuring that driving concentration is difficult because of the over-relaxing comforts of today's car, Mr. Jerome has perched his driver on a shelf elevated from the passenger compartment, his head and shoulders encircled by a dome-like structure that permits almost unobstructed 360-degree vision. A fixed-upright airplane-type seat is used. The circular glass area surrounding moves freely and in inclement weather is wiped of rain as it passes through two felt and rubber grooves. Two rear view mirrors are mounted from the ceiling to the right and left of the operator.

Below, three or four passengers may sit on a wide bench-type seat that is topped by a headrest running the full width of the car. Storage and extra space is capacious.

A specially designed unit connects between transmission and driveshaft which allows normal operation while the front section of the car bends off to turn in either direction. A power transmission and a power steering unit are the latest additions to the prototype pictured here.

The body is fully protected with an encircling bumper of three hard rubber tubes.

All square corners have been rounded off and the only protrusions are those of the door handles, which later are to be modified.

Top speed was not an essential in the original design. The designer is of the opinion that 60 mph is fast enough to go anywhere. At first glance, his machine seems to bear this out, and personally I would be considerably reluctant to attempt even a prolonged run at his maximum. Weight of the car was not available at the time of our visit, but I would estimate it to be well over 5000 lbs. Using a six-cylinder engine and observing the almost necessary slow speed range, it may be expected to deliver mileage comparable to most of today's big cars.

Until the day a full and complete car may be manufactured, Mr. Jerome plans to stay in business by rebuilding cars to order. He expects to turn out 11 or 12 a year at an approximate cost of \$10,000 each, and eventually drop the price to around \$6000.



Imposing control tower turret seats driver above traffic, provides unobstructed vision.

SIX FEET FOUR



AND ROOM FOR MORE



Fiat "1100", above, \$1743,
suggested price P.O.E., New York
Prices slightly higher on West Coast

IN A FIAT

FACTS ABOUT FIAT

- Up to 53 miles/gallon
- 15 different models
- European attention to detail
- Rugged, sure-footed safety

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Big people—have a seat!
There's lots of room in any
Fiat. In fact, every part of
the car—from robust engine to
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the precision coachwork, the
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come alone. Fiat fits the family!
It's the greatest little
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Magnificent successor to the great LOTUS "15" — with increased torque to claw out of corners . . . close-ratio 4-speed gear box . . . ZF limited slip differential . . . 2-liter twin OHC Coventry Climax engine . . . Chapman suspension.

AND . . . LOTUS Seven sprint and hill climb roadster . . . LOTUS Eleven Le Mans, 1098cc Climax . . . LOTUS Fifteen with 1475cc Climax . . . and LOTUS Seventeen with 750cc or 1098cc Climax.



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SWEDEN

Volvo's new 122-S four-door sedan is arriving in the U.S....SAAB is making a station wagon called the 95; holds six, with rear seat facing backward. Has four-speed gearbox....

ENGLAND

An Austin A-105 was outright winner of the British Mobilgas Economy Run, 38.78 mpg over 1065 miles....Three British cars took the first three places at Silverstone: Cooper-Climax, Aston Martin and BRM. Ferrari was 4th....Aston Martin DB Mark III is now available with automatic gearbox....Brian Lister and Frank Costin hope to have a new Lister-Jaguar ready for Le Mans....If development of the engine continues satisfactorily, a Vanwall may appear at the French GP at Reims....The name Standard may be disappearing, to be replaced by the more popular Triumph designation....Though it will be fall before the Rootes sportscar will be put on the market, our information is that it will be under the Sunbeam Alpine marque, have an envelope body, 100-hp four-cylinder engine, price \$2500-\$3000....

MONACO

Australia's Jack Brabham (Cooper) laid second to Moss (Cooper) until Stirling lost the gearbox on the 80th lap. He then fought off hard-charging Tony Brooks (Ferrari), winning by 14 seconds. Only other finishers (out of 16) were Trintignant (Cooper), Hill (Ferrari) and MacLaren (Cooper). Both Hill and Brooks were ill from heat and fumes in Ferrari cockpits....

GERMANY

Auto-Union is filling a contract for 15,000 jeep-like vehicles for the West German army....Rumor has it that BMW has a new 700cc car....The 900cc Lloyd has a four-cylinder horizontally-opposed engine, sort of a Hansa with reduced displacement....

LATIN AMERICA

Because of the reorganization of the Cuban Sports Commission, the Cuban Grand Prix has been cancelled. Last year, Fangio was kidnapped here....Willys Motors has signed an agreement with Renault to produce the Dauphine in Brazil....Wealthy Argentinian Juan Carlos Etcharte has formed Ecurie Argentine, composed of six Maseratis (three are Formula I)....

ITALY

Maserati's controlled administration has come to an end. The Orsis are reviving projects that had been shelved. Look for Maser next year after driver's contracts terminate and they're available....Stirling Moss, driving Rob Walker's Cooper-Borgward, won the Syracuse Formula II GP....

AFRICA

The Algiers-Capetown Rally, 9000 miles at an average of 49.3 mph, was won first overall by a Land Rover....The 1056-mile South African Mobilgas Economy Run, American Car section, was won by a Studebaker Lark, 24.69 mpg; second was a Rambler 6 with 23.81 mpg....

RUSSIA

Plans are underway to introduce the Moskvitch into the United States, and to promote it with advertising. Doesn't seem quite communistic....

ON THE AMERICAN SCENE

For the first time in U.S. sportscar racing, in two aspects of one meet, a sanctioned amateur and a pro-go will be held on successive days. Riverside Raceway, Saturday, July 18, holds the SCCA-sponsored amateur event; Sunday the USAC-sanctioned Championship Sports Car race....The American International Rally will definitely be held this year. Sponsored by American Rally Club, USAC and FIA, \$10,000 prize money is guaranteed. Entry fee is \$250; starting points are Los Angeles, San Francisco, Vancouver, B.C., Mexico City, Dallas, Detroit, New York and Miami, each leg about 3300 miles ending in Las Vegas. Address is 125 E. Linden Ave., Burbank, Calif....

INTERNATIONAL

The Intercontinental Formula is definite for world auto racing. The United States, England and Italy at a recent London meeting agreed, for '60-'61, on: 1) 3.8-liter limit, 2) six races, two for each country, 3) use of alcohol fuels allowed, if necessary (for cars, not drivers), 4) Indianapolis (5/30) and a new April date suggested for the U.S., and 5) the new formula to go into effect in 1960. ...Owing to financial difficulties, it is doubtful whether the Belgian and Moroccan Grands Prix will take place this year....Formula Jr. racing, off to a good start at Monaco, looks promising.

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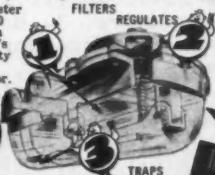
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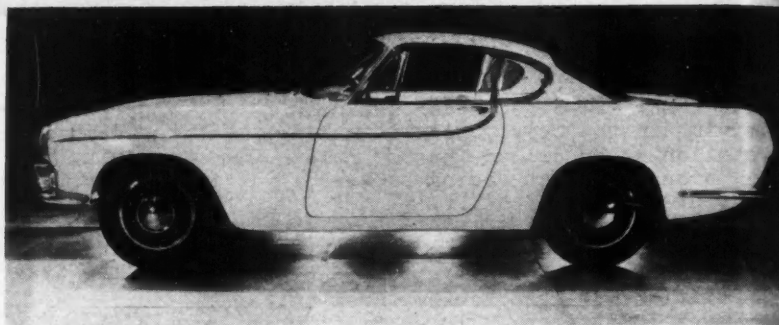
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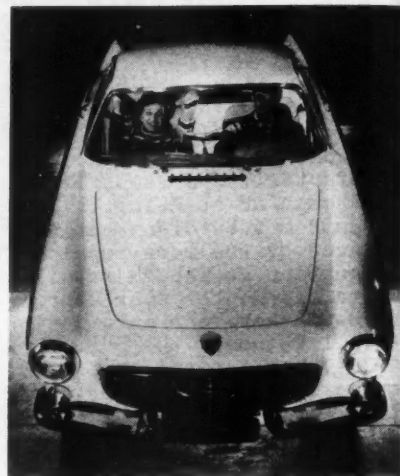
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coming in 1960 . . .



VOLVO SPORTS

Like any good design, Per Petterson's (Frua) Volvo Coupe is uncluttered; use of good taste replaces use of chrome. Length is 173 in., height only 51 in.; 85-hp 1500cc engine is coupled to 4-speed all-synchromat gearbox. Excellent Volvo engine and aerodynamic body combination adds substantially to top-end performance. Interior is plush, somewhat ornate; reminiscent of Detroit instrument panel styling of a few years ago before designers started on guided missile kick. Shifting lever is well placed, seats comfortable. Rear seats two for short distances, or luggage.



DKW Junior

The DKW Junior will enter production by year's end. It has 3-cyl. 2-stroke 741cc engine, 4-speed all-synch gearbox, top speed of 80 mph. Saxomat (automatic clutch) is optional extra.

*The sleek, lean Moretti
Spyder Convertible,
750 c.c. 43 HP.*

Other models available:

*750 c.c. Super
Panoramic 4-Door
Sedan, 35 HP; 750
c.c. Turismo Coupe,
35 HP; 750 c.c. Super
Turismo Coupe, 43 HP.*



NOT A MASS-PRODUCED SPORTS CAR — THAT'S WHY MORETTI COSTS \$2995 AND NOT A PENNY LESS!

HANDS, not machines, CRAFT MORETTI TO \$14,000 STANDARDS... FIT COMPONENTS OF BRONZE, BRASS, ALUMINUM... RUB 20 COATS OF PAINT... FORGE THE ALUMINUM CRANKCASE... PAD THE JAEGER PANEL... ENGINEER UP TO 103 MPH FROM 43 HP... COAX 45 SILENT MILES PER GALLON... PROMISE 60,000 MILES WITHOUT OVERHAUL... and ASSEMBLE THIS HEIR TO A WORLD-FAMOUS RACING TRADITION.

Part by part, component by component, Moretti is unique refinement.

ENGINE — hand-fitted overhead valve system; hand-forged finned aluminum crankcase; 3 bronze main bearings, crankshaft "locked in" engine casting for stability at high RPM; bronze distributor shaft; polished steel cylinder walls.

OPTIONAL ENGINES: 55 HP, 750 c.c. (double overhead cam) (double Weber carburetor); 75 HP, 750 c.c. (two double Weber carburetors, five main bearings).

TRANSMISSION — all aluminum housing; heavy duty racing clutch, adjustable grab; synchromesh on 2nd, 3rd, 4th speeds; steel gears.

At vital points everywhere, bronze, brass, aluminum cuts weight, injects greater-than-steel strength, flexibility, wear.

SUSPENSION — transverse springs for highway comfort and safety at high speeds.

UNIVERSAL — so durable that different wheel levels or road surfaces can never snap it, at any speed!

BODY — 90% hand-shaped; unitized, all weld safety; double-fold fenders that can't tear; pop-out windshield; undercoated and inner coated, sound and weather proof; 75 lb. reinforced doors (curb weight still only 1600 lbs.).

TIME, April 13, 1959, on Moretti at The Third International Automobile Show — "a show stopper".

AUTOMOTIVE NEWS, April 6, 1959, on Moretti — "a Latin Lovely".

BRAKES — oversize, aluminum, air-cooled; hub-finned for high speeds; no overheating after panic stops; emergency braking independent on each rear wheel.

STEERING — adjustable worm and sector drive; tiny turning radius; effortless parking.

INTERIOR — hand-tailored non-wrinkle naugahide appointments; Jaeger instrument clusters; padded dash; non-rust aluminum trim.

PERFORMANCE — "grip with go"; endurance — 80,000 miles over 5 continents with a sealed engine, oil and water changes only.

And many other surprises; hood, trunk, interior lights; copper radiator tanks and core; battery high on the right, easy to service; all engine sides immediately accessible; condenser air inductor keeps muffler moisture-free; a single fuse group, one fuse for each electrical accessory.

Moretti's price is \$2995. Moretti's value is the story you just read.

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NEW ELECTRONIC GLIDE

First simple, low-cost speed stabilizer engineered for
stops tiring, gas-wasting

"PEDAL PALPITATION"

Now, GLIDE CONTROL lets you achieve automatically, with any car, exactly what professional "economy run" drivers are famous for—record-breaking fuel savings through precise, even throttle control and fuel-feed! You get any speed you want, without the usual gas pedal "palpitation"—without excessive,

wasted rpm—without burning up gasoline needlessly. GLIDE CONTROL is a perfected, precision-made electronic instrument, proven efficient and fool-proof in rigid performance tests by leading automotive engineers. It completely eliminates gas-wasting "Pedal Palpitation"—guarantees new fuel savings.

GREATLY REDUCES FATIGUE

Another constant aim of "pro" drivers is minimum fatigue, and GLIDE CONTROL can promise you this advantage. It ends the tiring, cramping strain of holding right foot steadily on accelerator pedal. The usual tenseness of long grinds on thruways and much of the strain of local hops can be forgotten for good. Wherever you drive with GLIDE CONTROL, you arrive fresh and relaxed.

A SPEED STABILIZER

...NOT A "GOVERNOR"

Maximum fuel economy is possible only when the fuel flow to carburetor is unvarying. The human foot can't accomplish this—but GLIDE CONTROL can! Maximum comfort and driving ease are possible only when the right leg isn't kept tense, stiff, fixed to the gas pedal. Manual throttle control can't relieve this—but GLIDE CONTROL can! You get any speed you want with GLIDE CONTROL, and you can hold it for hours without strain. It's not a "governor" in any sense, but an electronic fuel-feed stabilizer. It saves a bundle on gasoline!

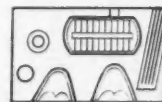
25% MORE GASOLINE MILEAGE
"Pays for itself" is no exaggeration with

GLIDE CONTROL. It provides maximum efficiency and uniformity of fuel-feed to carburetor, which results in more ideal combustion and maximum power from every drop consumed. You can't avoid gas pedal "palpitation" when your foot controls gas feed—every fluctuation means wasted rpm, useless gas consumption. But with GLIDE CONTROL, you keep the fuel-flow uniform and any gas will produce more miles per gallon. It increases gas mileage up to 25%—pays you back its full cost within a few months!

SAFE TOE-TIP CONTROL

You are in command every split-second, with GLIDE CONTROL. Hands never leave the wheel, eyes never leave the road—because this speed stabilizer is "cut in and out" by your toe-tip, not by a hand switch on the instrument panel. It works with a left-foot floor-button placed a little to the right, and above, the light-dimmer button. Touching the brake pedal "cuts it off" automatically. It requires no change in driving habit, no unfamiliar footwork. Driving with GLIDE CONTROL is as simple, natural, and familiar as dimming the headlights.

HOW IT WORKS



You accelerate to any desired speed, then "cut in" GLIDE CONTROL with your left toe. It will hold your speed at the predetermined rate indefinitely.

Once speed is set, your right foot is free, relaxed, and just that much more "ready" to hit the brake pedal when need be. GLIDE CONTROL holds speed constant by precisely measuring fuel-flow. It functions until you either touch the floor-button again, or apply the brakes. The instant you touch the brake pedal, GLIDE CONTROL "cuts out" and throttle control becomes manual.

COSTS UNDER \$30.00

GLIDE CONTROL costs under \$30.00 on any car—installation is quick, simple, low-cost. You save the sum total in just a few months. Performance-proven by leading automotive engineers and testing laboratories. Ask about GLIDE CONTROL at your automotive dealer, garage, or service station. Put an end to gas-wasting "Pedal Palpitation" forever!

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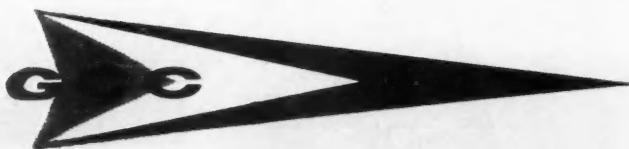
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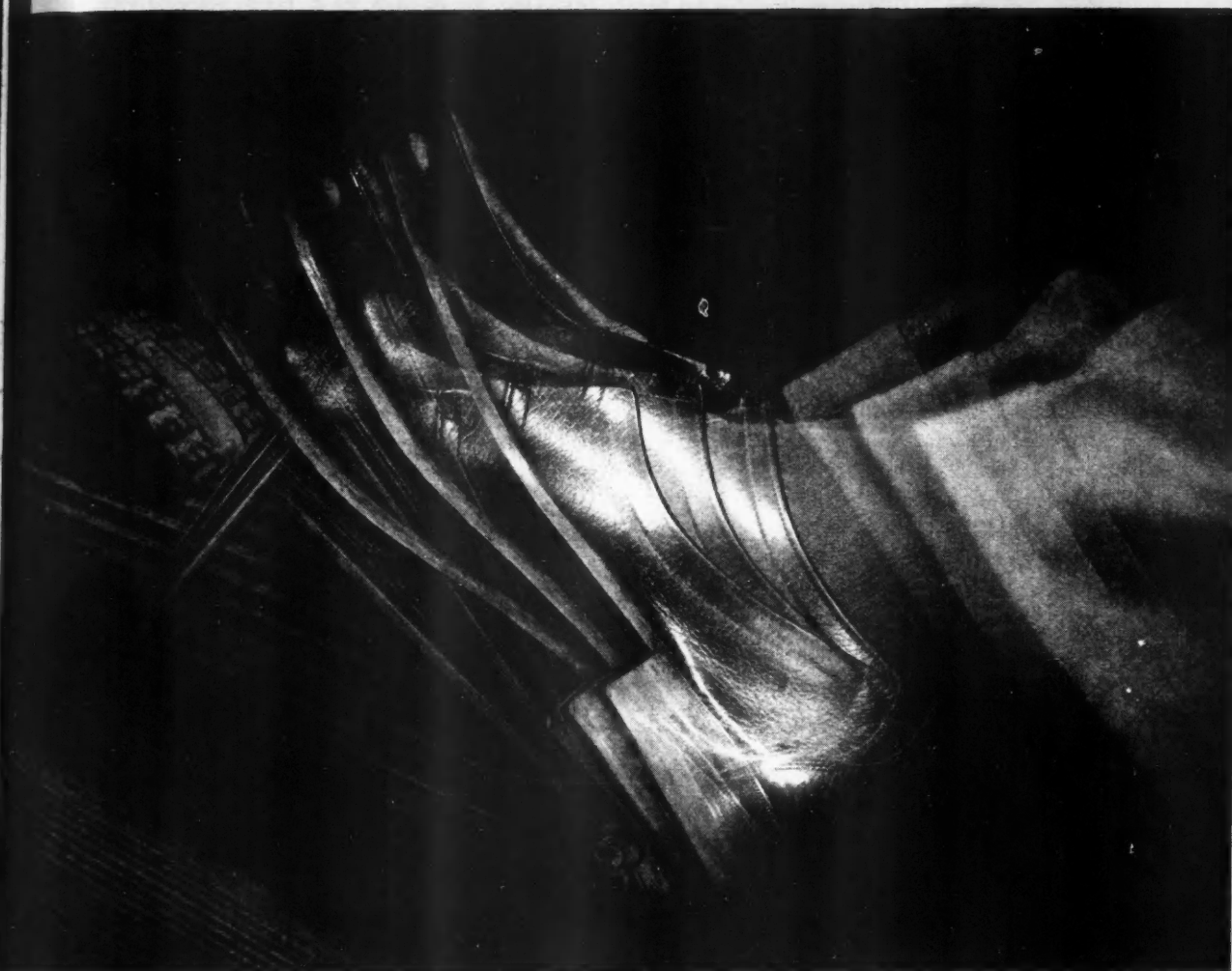
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greatest possible gas savings and driving ease in any car!



WASTEFUL PEDAL "PALPITATION" Hundreds of thousands of rpm, gallon upon gallon of gas, *wasted* every day! Figure it out for yourself—engineers estimate the waste by multiplying this way: number of miles driven x number "palpitations" per mi. x useless rpm per "palpitation."

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FORMULATED IN EUROPE

NOW ALL Sports and Import Cars Can Get COMPETITION PERFORMANCE!

Formulated in Europe by Wynn's Friction Proofing Division, a leading authority in the motor oil industry, this treatment is designed to keep pistons, rings and valves in top condition. It makes a difference in the way your car runs. It improves the way it looks. It keeps your car in top condition. All this in one bottle. It's Wynn's Friction Proofing Engine Treatment.

Rumors

"Willys is planning to re-enter the passenger car field with a revised version of its Aero, compact model which was discontinued in 1954."

FALSE—This rumor probably grew out of the recent announcement of a station wagon model called the Maverick which will be marketed through about 700 dealers (about half of its outlets) in the United States. There is no plan to revive Aero production in this country.

"Horsepower will be drastically curtailed in 1960 models."

FALSE—While more buyers are showing a preference for six-cylinder engines, and the advent of compact cars will further increase their use, those who still want the Eights will find little drop in power output. However, even the Eights will be tuned for better mileage.

"A variable ratio steering gear is under development that may eliminate the need for power steering."

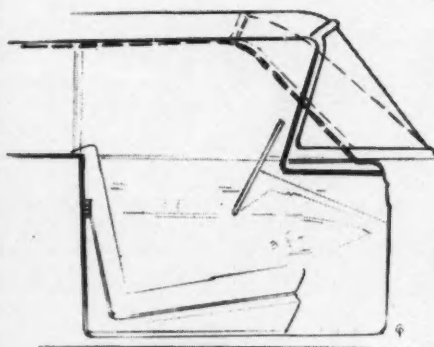
TRUE—Bendix Aviation is working on such a device but whether it will completely eliminate power steering still remains to be seen. It may only provide faster steering in the zone where quick response is most needed.

"Still striving for lower cars, the industry will turn to 13-inch wheels despite objections to them."

FALSE—It is possible that smaller tires could be used to advantage on the lighter, smaller compact cars to be introduced this fall, but it is not likely they will be adopted. For the heavier, standard size cars the present 14-inchers are probably as small as they will get.

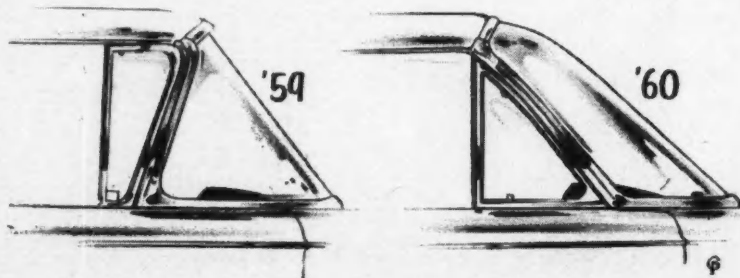
"Chrysler is having difficulty getting the price of its upcoming small car down to a competitive level."

VERY LIKELY—But who isn't? So far all reports of small car price range indicate the Big Three offerings will be around the \$2000 mark. This is no easy chore with current wage rate and possibly higher steel prices in the future. Rumor is Chrysler currently is struggling to squeeze the sale price below \$2300. Others probably have the same problem.



"Ford and Chrysler lines for 1960 will modify their windshields, particularly in the corner posts."

TRUE—This will be done to eliminate the objectionable "knee - knocker" obstruction that angled into the front entrance of '59s. Sketches show Ford changes and larger, wrap-over windshield planned. Vent pane will probably be integral with door. GM is expected to follow suit in '61 with similar change.



NOT ALL BONDED BRAKE SHOES ARE AS SAFE AS *Raybestos*[®]

The name Raybestos, part number, and shoe position are branded on the lining for your protection. Right now, down some back alley in an old garage, the fast-buck boys are cooking up a mess of linings and slapping them on shoes. In just a couple more hours they'll be peddling these murder weapons... at what looks like a very attractive price. Some people will buy. But we don't think you want to be the "fall" guy. We're confident that you—the well-informed, the knowing, car owner—will steer clear of this cheap, untested junk.

Today only the very best linings can hold up under the brutal attack of heat and wear. That's why only the finest materials and most advanced methods go into the making of Raybestos Lined Brake Shoes. That's why *each* Raybestos brake shoe is shear tested to assure bond strength. That's why Raybestos makes its linings by 8 different manufacturing processes... and supplies them in the precise combination for each make and model car. That's why a Raybestos product warranty is packaged with every set of Raybestos Lined Brake Shoes. So don't risk your life. Insist on Raybestos.

RELINE WITH
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AMERICA'S BIGGEST SELLING FRICTION MATERIAL

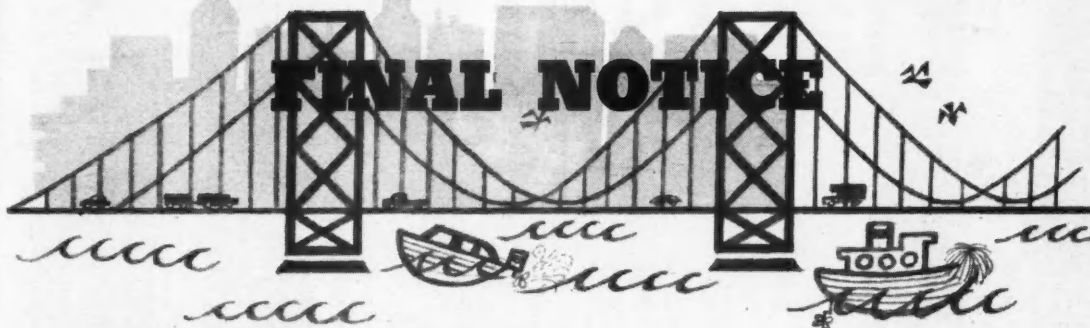


1959 Chevrolet brake shoe with "fire band groove" to dissipate heat

Every brake shoe is shear tested to assure strength of bond

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RAYBESTOS-MANHATTAN, INC., Brake Linings • Brake Blocks • Brake Fluid • Clutch Facings • Industrial Rubber • Mechanical Packings • Asbestos Textiles • Engineered Plastics • Sintered Metal Products • Rubber Covered Equipment • Laundry Pads and Covers • Abrasive and Diamond Wheels • Industrial Adhesives • Bowling Balls



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Best Buys in USED CARS

by James E. Potter



Looking for a used car . . . ? Wonder what to buy? Where to get it? Which make and model will hold its value best? Here's a look at today's used car market . . . and how you can find the "best buy" for you.

TO A WOMAN, BUYING A CAR is like buying a dress, and since so many women influence their husbands in this art of automobile purchasing, let's consider how they might go about it.

To get to the heart of the matter, I called on Jane Winston and her husband, Jerry—friends of mine who were about to go out looking for another car to replace their 1953 model, which was beginning to look pretty shabby and was in need of major repairs. The Winstons already had a new 1959 car, an imported economy car that Jerry used in his work as district manager of a large insurance company. The '53 sedan was Jane's car, used to do the family shopping, and transport the kids to and from school. Since it was heavier than the imported job, it got the wear and tear on long trips including the annual vacation jaunt up into mountain country.

The Winstons had three active children, ranging in age from five to 11 years—two girls and one bustling boy. An outsider would probably say this family's best buy in a late-model used car would be a '57 or '58 station wagon for a number of reasons—purpose of the vehicle (family transportation in the city and on vacations), cost (though a wagon price would still be higher than a hardtop sedan, for instance, the biggest hunk of depreciation—the first year or two—would be taken by the original owner).

So, what kind of a car were the Winstons considering? A two-year-old Cadillac with power steering, power brakes, power windows (for the children to play with), radio and heater, white sidewall tires (that had been recapped at least once), and upholstery that could have stood a chemical cleaning job because of spots and abuse. Admittedly, the exterior paint was in excellent condition and there weren't any noticeable dents and bad scratches in the body, and the car made an impressive sight in powder-blue contrast to the faded green '53 low-priced sedan that graced the Winston driveway.

Jerry, the money-making head of the family, actually attempted to divert his wife's attention from the Cad to a more practical '57 Ford station wagon which had new tires, a new battery, and from all appearances was in excellent condition throughout.

A week after I first talked with them about their forthcoming car purchase, they had their "new" used car. Need I say that the powder-blue luxury model got the No. 1 position in the Winston two-car garage—even though dad dug down deeper into his pockets to the tune of several hundred dollars to accomplish the "buy!"

The point of the story, of course, is that *you*, in the final analysis, will probably go ahead and buy the car your wife wants, despite all of our sage advice, statistics, depreciation graphs, and sidelight tidbits that would normally help you out of any car-buying dilemma.

For the strong-willed men or those who are still single (and don't have a girl friend), here are the used-car buying trends and ideas which may assist you in getting *your* best buy in a used car.

What about body style or type?

Forgetting any particular purpose of the car itself, the body type that is the most popular (sells the most) of any given make in any given year is the best buy—if you are considering future resale value (and you should if you are a smart buyer).

Is there an age limit to the car?

Obviously, a person would be better off if he bought a car only two or three years old rather than one that's been around 10 or 12 years. A car can be compared in a sense to the human body—the younger it is the more vitality it *usually* has, and the less chance of parts failure—whether it be a piston or a heart. A mechanical vehicle however, has no rebuilding powers; the human chassis, of course, recoups remarkably despite the worst kind of abuse.

An obvious limitation to your purchase of a late-model used car is your ability to pay—whether it be by cash or by monthly payments. A good guide that has been used for years is not to extend yourself over one-quarter of your income for wheels on a monthly purchase plan, but if you're single or have only minor financial responsibilities, you might go a bit higher (most youths who get the car bug do anyway; witness the cars around any high school parking lot).

Is there a 'best buy' for every model year?

For the answer to this one, a survey was made among several car salesmen who have been in the business for at least 10 years; if anyone should know what year models of a particular make are "fast movers" and therefore popular with their customers, they should.

IN THE LOW-PRICED FIELD FOR 1956, the Chevrolet is the car that's most in demand by used car buyers, especially the Impala. Its popularity was based more on its good looks than on anything mechanical.

For 1957, Ford seems to have a wider general public acceptance than either Chevrolet or Plymouth. Again, the appeal is based on appearance rather than on performance. For instance, '57 Fords are pretty well known to be gas hogs. They had squeezed the compression down so tight in '57 that fuel consumption jumped to 10 to 12 miles to the gallon. The car

(Charts on next page . . . Text continued on page 62)



BEST BUYS IN USED CARS

continued

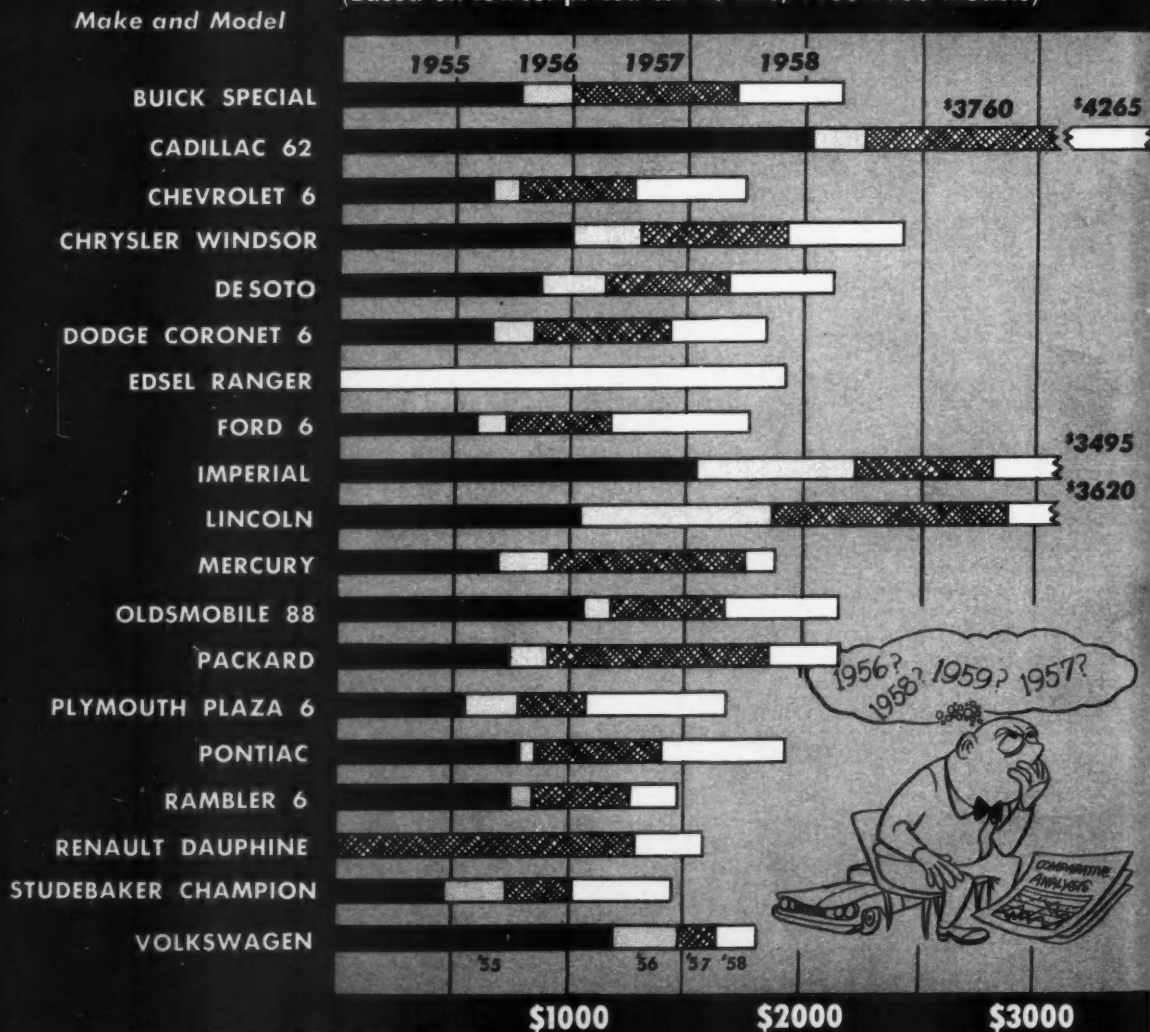
1959 USED CAR MARKET MOST POPULAR MAKES AND BODY STYLES BY YEARS

	1955	1956	1957	1958
LOW-PRICED	Chevrolet V8 Bel Air Hardtop	Chevrolet V8 Bel Air Hardtop Ford V8 Fairlane Hardtop	Ford V8 Fairlane Hardtop	Chevrolet V8 Impala Hardtop
MEDIUM-PRICED	Buick Century Hardtop	Dodge Lancer 4-Door Hardtop Oldsmobile 88 Holiday Hardtop Pontiac Star Chief Hardtop	Dodge Lancer 4-Door Hardtop Mercury Monterey Hardtop Oldsmobile 88 Holiday Hardtop	Dodge Lancer 4-Door Hardtop Oldsmobile 88 Holiday Hardtop Pontiac Star Chief Hardtop
HIGH-PRICED	Cadillac 62 de Ville Hardtop	Cadillac 62 de Ville Hardtop	Cadillac 62 de Ville Hardtop	Cadillac 62 de Ville Hardtop

Prices in chart below are current average retail figures for cars in average condition. Black segment of bar represents present cost of '55 models; adding the gray, '56; cross-hatch, '57; and white, '58. Prices may vary in different areas, depending on local market conditions, but chart shows the comparative values and depreciation of cars one to four years old in a particular line.

CURRENT PRICES OF USED CARS

(Based on lowest-priced car in line, 1955-1958 models)



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...and when you find that "good deal in a used car," will it turn out to be a "peach" or a "lemon"? You can tell before you buy it if you know...

HOW TO SPOT-TEST A USED CAR



ONE OF THE MOST OBVIOUS SPOTS to look at first when considering the purchase of a used car is the wheels. But don't just kick the tire . . . shake the wheel vigorously in and out (as shown in photo above) to check for bad bearings and worn suspension. If you don't catch it before you become the owner, you may have to add up to \$75 in repair costs.

Such knowledge of what to look for in evaluating a used car is vital if you want a car that will give you good service with a minimum of repair and maintenance costs. In addition to admiring the polish or repaint job, you should examine the inside, inspect underneath, check out the engine and road test the car. This procedure will "take the pig out of the poke"—and prove or disprove the seller's glowing words of praise.

For the more complicated mechanical checks (especially

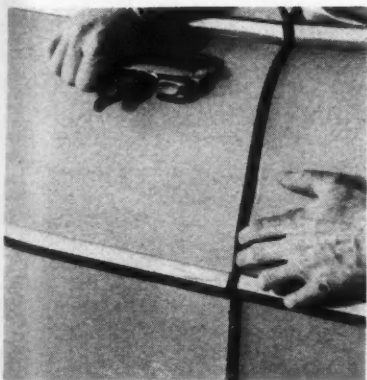
automatic transmissions), it is a good investment to hire an independent mechanic—even if you have to cough up five bucks for his one-hour appraisal. Five may save you 500.

Most dealers are willing to cooperate in the matter of road testing, as long as you don't screech the car off the lot and down the street. The shake-down cruise need not be long nor at high speeds—but without it you can only guess at the car's performance under actual road conditions.

Call the defects you find to the dealer's attention. He may be willing to make some allowances. If he doesn't meet you at least part of the way, you'll be better off to pass up the car—or the "is" in the "as is" will be what you're stuck with.

The pictures on these pages will help you separate the sharp buy from the lead-barge. Take your time and be sure!

Photo Story by V. Lee Oertle



Doors should fit tightly, close soundly without sticking. Hinges that allow doors to sag or twist when open may indicate a bent frame. Handles should work easily.



Body rust can be detected by probing with screwdriver under body panels and doors, all around car. Too many soft spots are a danger sign of damage costly to repair.



Tailpipes can tell tales. If rear bumper over exhaust or inside of pipe is sooty, chances are that engine may need work. Testing with compression gauge is advised.

HOW TO SPOT-TEST A USED CAR

Examining the Inside

continued



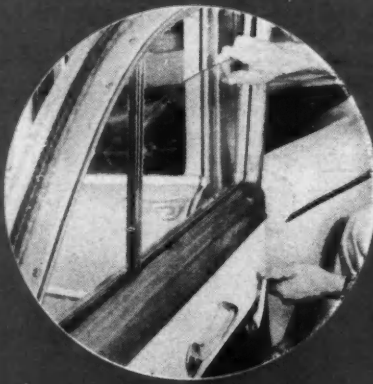
New seat covers may actually be hiding extensive torn or worn areas. Probe seats deeply for broken springs, for padding that may be missing or lumped in corners. Repair may run from \$25-\$50.



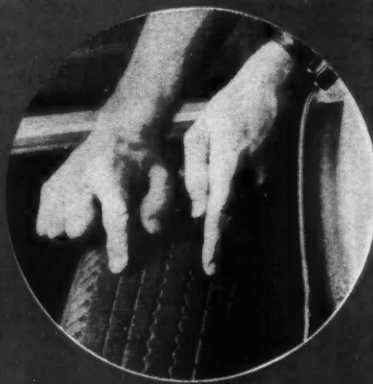
Pay no attention to mileage shown on odometer. If floor mats, pedals or armrests show much wear, chances are that car has had at least 20,000 miles. Overlooked lube stickers may reveal true mileage.



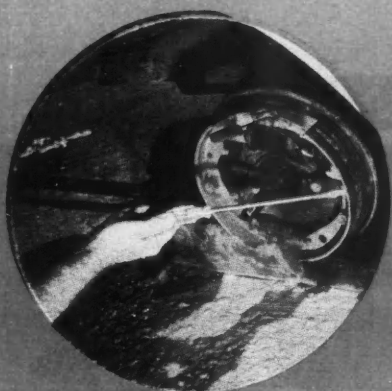
Quick test for leaking brake system is to pump pedal a few times, then press down hard and hold. If pedal creeps downward slowly, there's a leak somewhere—either in a wheel cylinder or master cylinder.



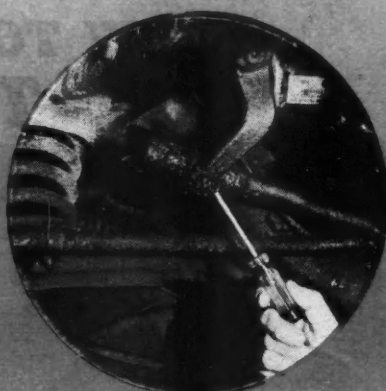
All windows should roll up and down easily, with no cracked glass or broken mechanisms. Check door locks for ease of operation, also wind-wings. Weatherstripping should fit tightly.



Trunks can hide secrets. Spare tire worn on one side, cupped, or with a bent wheel may mean tires were switched to hide front-end defect. If jack is beat up and general trunk condition shoddy, suspect high mileage.

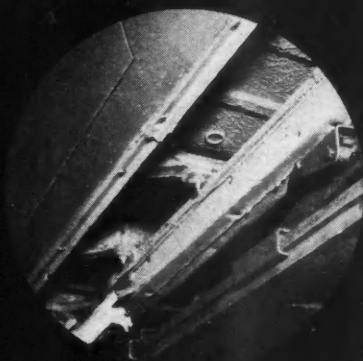


Have your mechanic pull a front wheel to inspect brake lining. Thin lining, glazed surfaces indicate immediate need for brake job. Dealer may agree to do work at cost—or make an allowance.

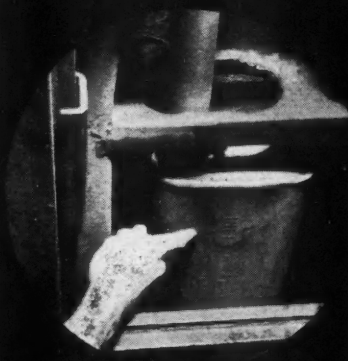


Front-end suspension and steering linkage should be tested for tightness and wear. Check grease fittings for recent lubrication. While car is on rack, look for leaks in oil pan, transmission.

Inspecting Underneath



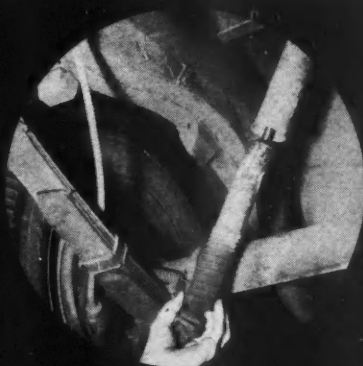
Look the frame over for obvious repairs such as welded sections which indicate collision damage. If in doubt, reject car.



Trace out the exhaust system. Tears in muffler (such as shown) or rusted tailpipes mean leaking exhaust gas, replacement soon.

With car on rack, it's easy to spot broken or damaged shock absorbers or spring leaves, bad grease seals, leaking cylinders.

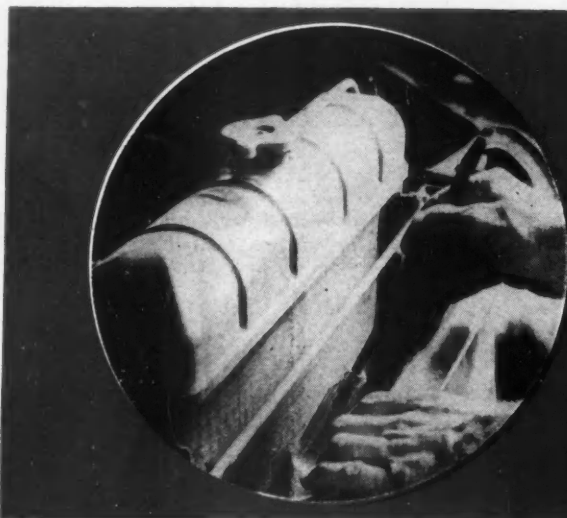
Inspect the gas tank for dents or welded patch spots. Leaky areas will be free of grease accumulations. Repair is costly.



worn
wheel
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HOW TO SPOT-TEST A USED CAR continued

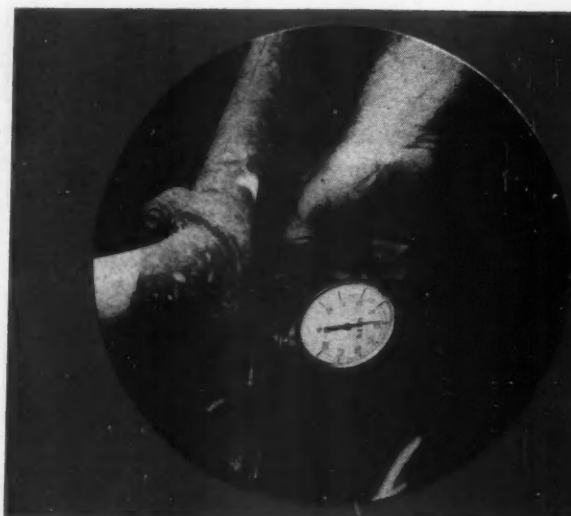
Checking the Engine



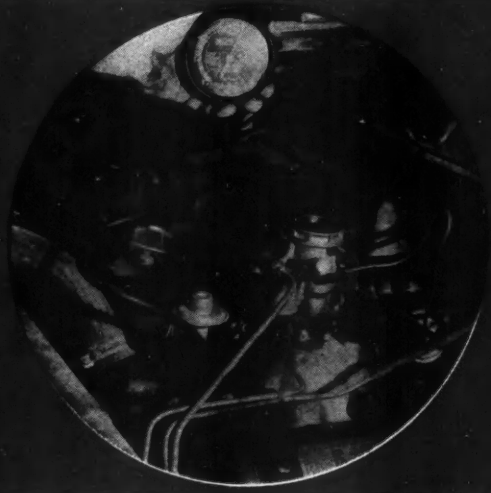
A clean, shining engine may indicate good care—or maybe the dealer had it steamed and painted to hide faults. Inspect hoses, ignition wiring, look for leaks around studs. Check radiator with engine running.



To detect missing teeth on flywheel, pull coil wire, as at right, and operate the starter from the solenoid. Clanking and grinding sounds will mean trouble. Your mechanic can interpret the danger signs for you.

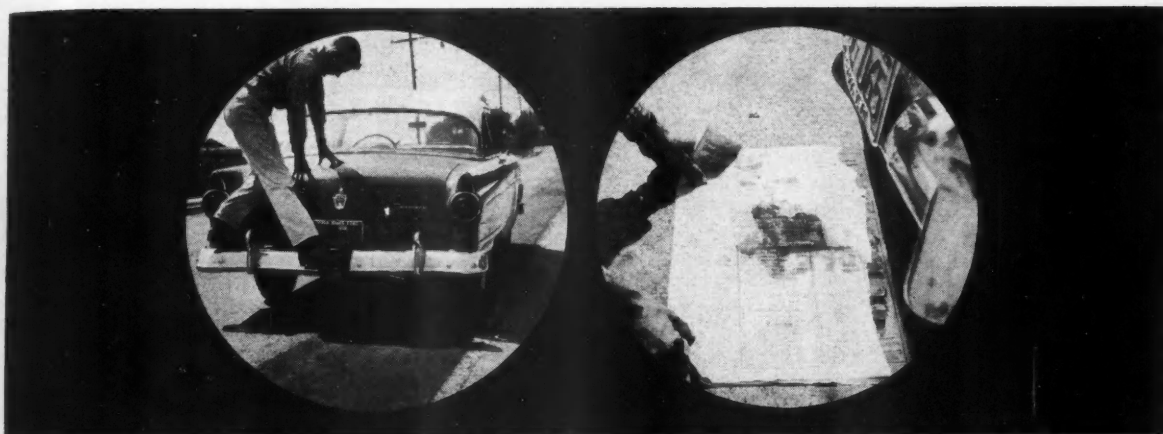


Compression check of all cylinders is a good guide to engine condition, can indicate bad valves, cylinder wear, sticking rings. Pressure readings over 100 lbs. denote healthy engine; 80-100 fair shape.



A vacuum gauge in the hands of a skilled mechanic can analyze valve action, ignition timing, carburetor adjustment, manifold leaks, etc. Knowing engine condition can save dollars, bring peace of mind.

Road Testing



After driving car a few miles to warm up parts, stand on bumper, then step off quickly. Bouncy up-and-down motion indicates faulty shock absorbers and inadequate, unsafe suspension support.

With the engine warmed, place a newspaper under it and let idle for several minutes. Remove paper and look for oil stains. Repeat check under automatic transmission. Bad leaks should be suspect.

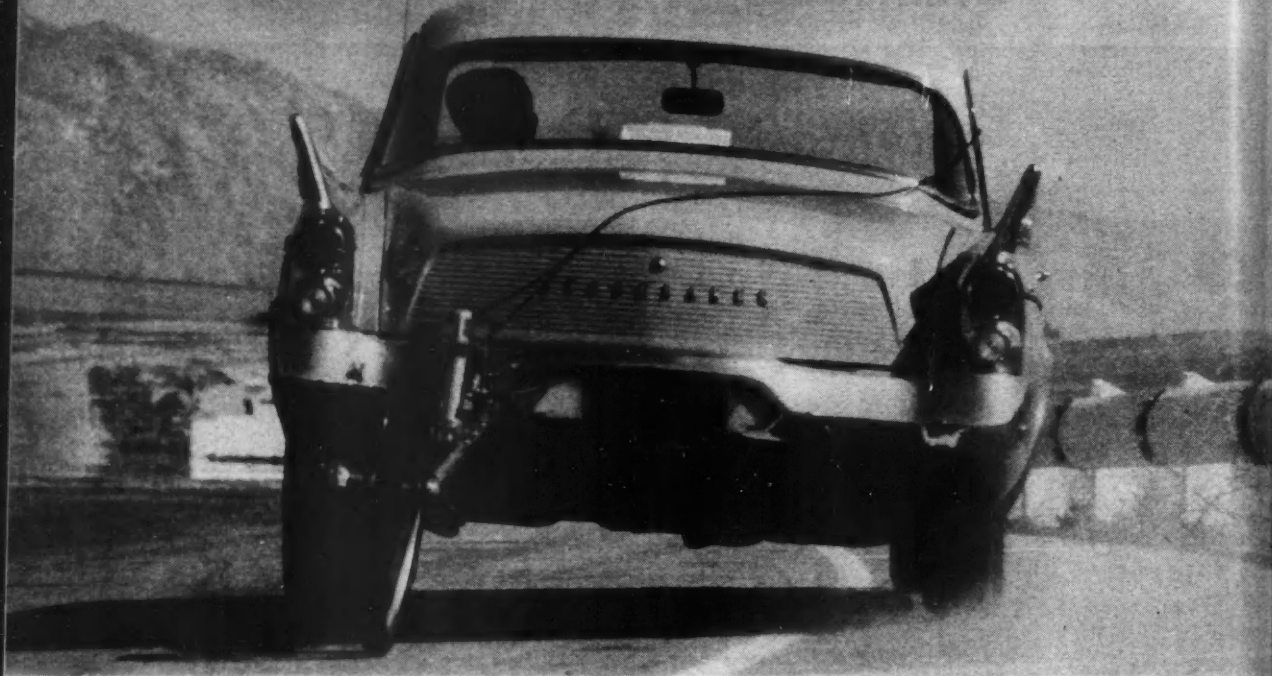


The highway cornering test will reveal bad steering gear, sloppy suspension system, and general handling characteristics. Stiff steering may mean that gears are damaged or over-tightened. Tendency of car to "drift" to right or left may indicate a need for front-end work, or even a bent frame. Both are costly to repair.

Find a rough back road and see how the car takes the bumps and washboard terrain. A short drive on such surface will quickly reveal rattles and loose parts. Next, try a steep hill at normal speed. If the temperature climbs, the radiator may be at fault—or it might be low compression resulting from sloppy rings, bad valves.

The road test should include a stop where you can watch the car being driven away. If it seems to move sideways when viewed from the rear, it may have a bent frame, evidence of a bad collision. Evaluate all your "spot-test" findings carefully . . . they should play an important part in your decision to buy—or "keep looking."

SILVER HAWK—Studebaker's agile sportscar / coupe



by Charles Nerpel Technical Editor



Engine compartment is roomy and accessible despite a low hood line and power accessories. Optional wet air cleaner makes use of light oil for filtering carburetor intake.

SOMEWHERE IN THE VAST COLLECTION of horsepower, garish chrome, extra-long wheelbase, excessive overhang, bulging widths, interiors by ultra-modern decorators and instrument panels by Salvador Dali, there must be a domestic automobile that is a simple functional vehicle. We think we found the answer in Studebaker's Silver Hawk sports coupe. Here is a compact package with enough front seat width to accommodate the driver and two passengers, and a back seat for those occasional extra riders. Although legroom is surprisingly good, the body shape is still that of a two-door coupe, and not a long sedan with two doors eliminated.

At the risk of being called old-fashioned, we personally like instruments that look like instruments, control knobs that are clearly marked, and lights that illuminate. This is one of the pleasures of sliding behind the wheel of the Hawk for the first time. There—bare, exposed and beautiful—is the white-on-black Stewart-Warner instrumentation, clock included, surrounded by light, heater, vent and wiper controls.

Besides being able to find these at a glance, wheel position, seat height, and forward visibility make the road just as easy to find—a distinct advantage in modern motoring. There is also a feeling of compact solidity.

MOTOR TREND, like everyone else concerned with product information, looks for the undesirable features as well as the good ones. So before going on with the many fine things the Hawk offers, we will review some of the points we questioned because we had problems with them.

Many new cars are using disposable oil filters. Case and self-contained filter screw into the partial flow filtering system and replacement is complete—no drippy cartridge, no cartridge case to clean out or drain. The Hawk mounts its filter on top of the engine, well forward and in a near-vertical position. Due to its length and top engine mounting, every move the engine

makes is magnified greatly at the point where the filter mounts.

Out on the highway enroute to Riverside Raceway's test course, we began to smell hot oil and were alarmed when a glance in the rear mirror revealed that we were leaving a trail of blue smoke. Investigation showed that the oil filter, absorbing the exaggerated vibration, had unscrewed slightly, breaking the seal on the neoprene washer and causing oil to hit the hot exhaust manifold. Hand tightening only relieved the leak for 15 or 20 miles until we had to repeat the operation. Ignoring the imprinted warning to hand tighten only, we applied the pressure of a belt-type wrench and never lost another drop of oil during the several weeks we drove the car. We mention all this, not only for the benefit of the buyer, but as a caution to new car service departments where a little extra care may save the customer the disaster of running out of oil.

Under the front passenger seat, mounted to the floorboards, is an air outlet both for heat and ventilation. When the seat is in full rear position, the front edges of this little sheet metal box are exposed, and these edges are sharp, as evidenced by the cuts on the backs of the shoes of anyone unlucky enough to rub across the vent. A few minutes with a fine file or a layer of plastic tape can remedy this situation—another tip for service departments. Outside of a rather low hood release latch location, there is little else at fault with the Hawk.

The 259-cu.-in. engine rated at 180 hp seems to be a happy combination on this chassis, but for a slight additional cost the optional four-barrel carburetor and dual-exhaust system that add another 15 hp could do a lot to reduce the passing speed times in the 60-mph range. Handling is excellent, with a sportscar response and flatness on curves that does not sacrifice smooth riding qualities both on and off the pavement. If you like functional automobiles, don't overlook the Hawk.



Hawk's distinctive radiator-type grille is part of the hood and raises with it. Release and safety latch are well hidden inside the lower aircoop. Hawk's hood is not spring-loaded, therefore raising requires a two-handed effort.

STUDEBAKER HAWK FACTS AND FIGURES

ACCELERATION

0-45	8.7 sec.
0-60	13.8
1/4-mile	19.3 @ 70 mph

PASSING SPEEDS	30-50	4.6
	45-60	5.2
	50-60	16.0

GAS MILEAGE

City Driving	15.8 mpg for 405 miles
Highway Driving	18.2 mpg for 614 miles
Average	17.0 mpg for 1019 miles

Steady 50-mph fuel bottle test 21.7 mpg
(Gas used: Flying A Special)

HOW MT RATES THE CAR

	POOR	GOOD	TOPS
acceleration		✓	
brakes		✓	
gas mileage		✓	
handling ease			✓
riding comfort			✓
roadability			✓
trade-in value		✓	



SPECIFICATIONS

ENGINE: Ohv V8, Bore 3.0 in. Stroke 4.6 in. Stroke/bore ratio 1.32:1. Compression ratio 8.8:1. Displacement 259.3 cu. in. 1 2-bbl. carburetor. Single exhaust. Advertised bhp 180 @ 4300 rpm. Bhp per cu. in. .69. Piston speed @ max. bhp 3000 ft. per min. Max. bhp 151 psi. Max. torque 250 lb.-ft. @ 3800 rpm.

TRANSMISSION: Flightomatic automatic 3-speed torque converter with planetary gears. Ratios 2.46:1, 1.47:1, 1.00:1.

CHASSIS: Front suspension—Independent lateral arms with coil springs. Rear—semi-elliptical leaf springs. 6.70 x 15 tires. Power steering, recirculating ball, 4.25 turns lock-to-lock, turning diameter 42.5 ft. Overall ratio 26.5:1. Rear axle—Conventional differential, ratio 2.54:1.

DIMENSIONS: Wheelbase 128.5 in., overall length 204, overall height 55.5, overall width 71.3, front tread 57.3, rear tread 56.5, rear overhang 48.6.

PRICE: Factory-suggested retail price of test car equipped as described, including federal tax but not state and local taxes, delivery and handling charges or freight \$2101.

MT

ROAD TEST



THE AMBASSADOR, like other cars in the American Motors' line, has some features pioneered by them that are so good the big competitors are being forced in the same direction. The most outstanding of these is the unitized body-frame construction. Recognizing the advantages of eliminating the frame to which a body had to be bolted, American Motors engineered a method of making the body part of the frame and vice-versa. This not only reduces the extra production line operations, but eliminates most of the rattles, squeaks and other by-products of highway and engine vibration.

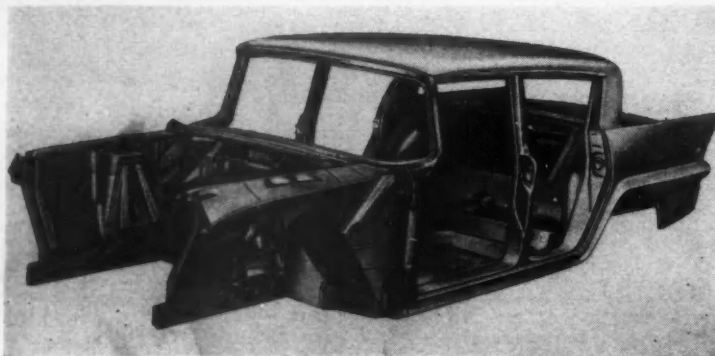
It is a shame they could not make more complete use of this extremely quiet construction by wind tunnel testing to reduce wind noise. This is one very annoying feature of this car. With front windows and wind-wings open, the wind buffeting the ear and side of

Solid family

by Charles Nerpel, Technical Editor



Top left: "Barber chair" headrest can be adjusted to individual height. Lower left: Reclining seatbacks are lowered by lever but require assist to restore to upright position. Top center: Left-handed push-button shift panel includes starter and neutral position. Parking lock for automatic transmission is below panel. Right: European influence prompted the optional "fish net" map carrier that allows handy stowage of flat items above sun visors.



Ambassador's rugged body and frame are the result of years of development by American Motors. Welded joints, that eliminate many nuts and bolts, do much to produce a quiet, squeak- and rattle-proof ride with a high safety factor.

the head exposed to this blast is very annoying, even in the 50-mph speed range. We also noticed this on the Rambler and thought it might be the metal rain visor option, but Rambler and Ambassador cars without them buffeted just the same.

One of the solutions to the wind problem might be to order the car with AM's air conditioners, then drive with windows closed.

On the highway and on the rough side roads in the country, the ride is smooth and quiet, again a tribute to the solid unit construction. But winding roads and the twisting curves of Riverside Raceways test course produced quite a handling chore. The old problem of being able to safely negotiate that misjudged turn rears its ugly head, and excessive front wheel slide makes the front end reluctant to follow the direction in which the wheels are turned. This is accentuated at

lower speeds where the road surface might have a sprinkling of dirt, sand, gravel or water. You need all of the front-wheel bite you can get, and even on clean dry surfaces the Ambassador just does not have it.

Reclining front seatbacks (they are not spring-loaded and require two-hand operation to return them to upright position), adjustable "barber chair" headrests, and good visibility are features that make the Ambassador a nice touring car for moderate speed and highway conditions. Brakes are adequate, and the V8 engine with pushbutton transmission provides a drive combination for comfortable cruising in the quiet safety of the unit body.

Ambassador's 327-cubic-inch V8 engine, rated at 270 hp, does not give the 3600-pound-plus car any but average performance or gasoline mileage. In our opinion, it's a conservative car for conservative drivers.

family sedan for conservative drivers

AMBASSADOR FACTS AND FIGURES

ACCELERATION

0-45	8.6 secs.
0-60	13.8
1/4-mile	19.1 & 71 mph

PASSING SPEEDS

30-50	5.5
45-60	6.8
50-80	14.9

GAS MILEAGE

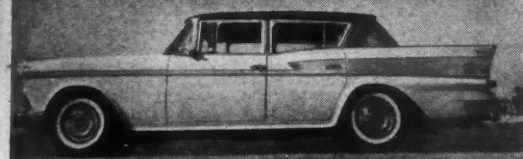
City Driving	13.0 mpg for 264 miles
Highway Driving	16.5 mpg for 200 miles
Average	14.7 mpg for 464 miles

Steady 50 mph fuel bottle test 17.1 mpg.
(Gas used: Flying A Special)

HOW MY RATES THE CAR

acceleration
brakes
gas mileage
handling ease
riding comfort
roadability
trade-in value

POOR	GOOD	TOPS
	✓	
	✓	
	✓	
✓		
	✓	
	✓	
	✓	



SPECIFICATIONS

ENGINE: Obv V8. Bore 4.6 in. Stroke 3.25 in. Bore/stroke ratio .81. Compression ratio 8.7:1. Displacement 327 cu. in. 144-hp carburetor. Single exhaust. Advertised hp 270 @ 4700 rpm. Ego get on. to. 55. Max. speed 75 mph. 2580 ft. per min. Max. torque 240 ft.-lb. @ 2000 rpm.

TRANSMISSION: Flash-O-Matic, torque converter with planetary gears. Ratios 2.40:1, 1.47:1, 1.00:1.

CHASSIS: Front suspension—Independent A-arm with coil springs. Rear—Torque tube and coil springs. Single unit body-frame. 8.00x15 tires. Steering—Gleason recirculating ball. 4.75 turn lock-to-lock, turning diameter 41.5 ft. Overall ratio 25.4:1. Rear axle—Hypoid solid axle. Limited-slip differential (optional), ratio 2.15:1.

DIMENSIONS: Wheelbase 117 in., overall length 200.2, overall height 57.6, overall width 72.2, front track 57.8, rear track 59.1, rear overhang 51.5.

PRICE—factory-suggested retail price of test car equipped as described, including federal tax but not state and local taxes, delivery and handling charges or freight \$2216.



Triumph Herald drives past milk carts on wet Irish highway.

"If there's a small car that offers a better combination of good roadholding, safe handling and comfortable ride, I have yet to find it..." Gordon Wilkins doesn't toss off such statements lightly, yet that's what he had to say after the secret pre-announcement run of the Triumph Herald in Eire. It's a significant car.

A New Triumph for

by Gordon Wilkins European Editor

DRAWINGS BY THEO PAGE

IT LOOKS LIKE SOMETHING NEW with its clear-cut lines and gay colors. Michelotti's Italian custom styling has triumphantly survived the transition from prototype to production model. The service and repair story is good—no chassis greasing or lubrication to worry about beyond a change of engine oil every 6000 miles and an annual check on oil levels in gearbox, differential and steering pivot pins.

How about that accessibility they speak of? Release the catch, grab the handle on top of the hood and prepare to lift. But the pivot point is so cleverly placed that hood, fenders and headlights swing forward with a light pull that any woman could manage . . . and there you have engine, accessories, radiator, steering, front suspension and brakes in full view.

Opening the wide doors reveals a neat piece of functional styling. The roof is turned up at the edges, so the door is practically the full height of the car—probably an inch or two higher than a door under a conventional roof, which makes a lot of difference when entering a small low-built car. Driving seat adjustment fore and aft is set by the usual runners; to change height and slope, just lift the seat and turn a pair of rubber blocks on the seat frame. Neat and simple, so long as they don't get lost. To adjust the telescopic steering column takes only a minute or so, but on four different cars I never found any cause to move it.

All-around vision is good on the coupe, excellent on the sedan which has practically no rear quarter panels.

Horns worked by a button on the center of the two-spoked wheel have a penetrating note. A trigger on the steering column works self-cancelling flashing indicators, and another switches from side lights through dipped headlights to main beam, but a separate switch must first be used to put on side and tail lights, so one has to work two switches to flash headlights as a

warning in the daytime, or else has to run with side lights on.

The pendant pedals are small but spaced widely enough for big feet. The accelerator is unusual; the organ pedal presses against a Bowden cable, pulling it through a conduit and opening the throttle. It looks slightly improvised but works smoothly. The short sports-type gear lever and pull-up hand brake are nicely placed in the center.

From the moment you swing away from the curb you know that this is something new in small cars. Swing the wheel hard and it parks as easily as a wheelbarrow. It turns in places where you wouldn't attempt it with other cars, and on the straight it steers to an inch. The rack-and-pinion steering is quick and direct (3½ turns lock-to-lock for that tiny 25-foot turning circle), and there is no more than a slight tremor in the wheel on bumpy roads.

If there's a small car that offers a better combination of good roadholding, safe handling and comfortable ride, I have yet to find it. In a series of tight corners it goes through with the grace of a slalom star; no roll, no running wide. Well balanced and taut, it holds its line exactly even on treacherous bends with a hump in the middle. Simple swing axle rear suspension usually has high adhesion up to a breakaway point, which comes suddenly, but on dry roads you'd have to be brutal indeed to find it. On wet corners, a stab on the gas pedal helps to bring the tail around smoothly. Driven hard in a downpour, it swooped swift as a swallow over the narrow winding roads.

Even in the back seats the ride is smoother than usual for this size of car; headroom is good thanks to the flat roof and knee-room is adequate. The all-independent suspension helps; so does the 91.5-inch wheelbase, longer than that of the Austin A-35 or A-40, Dauphine, or Morris Minor. Braking is safe and sure, wet or dry.

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Coupe has same body panels as sedan with different roof and longer rear deck. Rear children's seats are extra.

TRIUMPH?



Front fender-hood unit lifts for access to engine and components.

A New Triumph for TRIUMPH?

continued



Clutch action is light and smooth, and either coupe or sedan will start in second with two aboard. The gear shift is easy, and without over-revving the 948cc engine, the sedan does about 26 mph in second gear, 45 in third and 68 to 70 in top. It goes from 0 to 50 mph in 20 seconds. The coupe, with higher compression, twin carburetors and higher axle ratio gets up to 50 in about 16 seconds. Second gear gives about 30, third nearly 50, and it does nearly 80 in top.

Handling of both models is very similar. The coupe has fewer leaves in the rear spring to compensate for the lighter weight and keep spring frequencies the same. Engine noise and road rumble are well below usual levels. Interior finish is simple — and rather severe, with paint used in preference to bright metal — but all essentials are provided.

The sedan has a single dial combining speedometer (calibrated in miles and kilometers) and fuel gauge (there's a reserve tap in the trunk). Coupe has separate fuel gauge and thermometer. There's a central ashtray and the sedan has two more at the rear. The tray on top of the gearbox holds ciga-

rettes or sun glasses but I suspect it might get too hot for chocolate in summer time. Equipment includes heater and defroster (which work well), glove box, drop-down wire parcel rack, coat hooks and twin visors (which do not swing sideways).

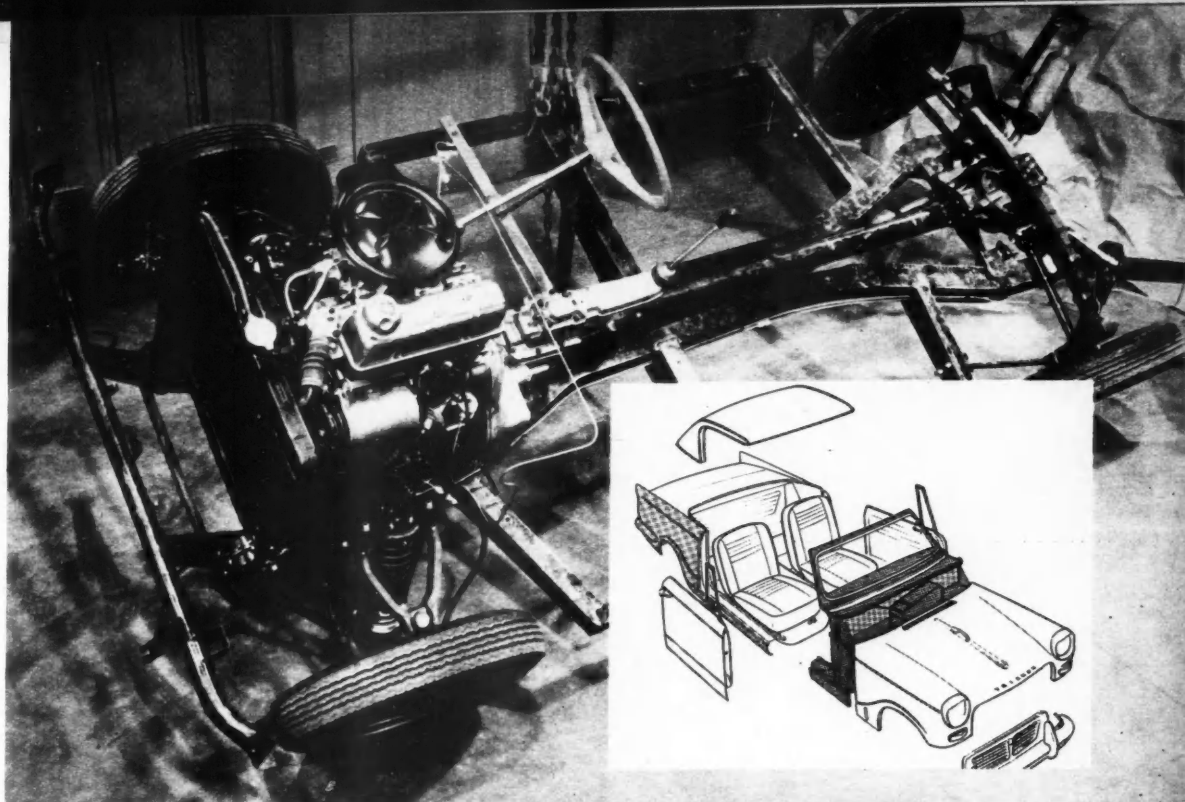
The trunk is roomy and easily loaded, the spare wheel being recessed in the floor. On the sedan the rear seat folds, extending the cargo space right through to the front seats.

Painted bumpers formed in the lower body panels look vulnerable and easily scratched, but Triumph engineers argue they can be removed and repaired more easily than conventional chrome-plated bumpers. Rubber rubbing strips with bright metal inserts will be offered at extra cost.

Promise of low service and repair bills, easy handling, riding comfort, new safety features and smart appearance make the Herald an outstanding small car. One British insurance company has already signified its faith in the design by offering Herald owners a 12½ per cent reduction on normal insurance premiums.

Interior of coupe shows pendant pedals, four-speed shifting lever, tray and instrumentation. It's a clean interior.





Herald has backbone chassis frame with outriggers to support the body, permitting large steering angles and small turning circle. Suspension, both front and rear, is independent on both the coupe and sedan.

Rubber blocks, mounted on front seat runners, can be turned to offer four variations in height and tilt. Seats are spring loaded to stay up during entry. This is the coupe; the sedan's seats are larger.



Tired of that old look?
Here's a summer project for you, then.
Rip out the old! Put in the new!



customfit your interior

to your own taste, using these ideas
— from the mild to the wild!

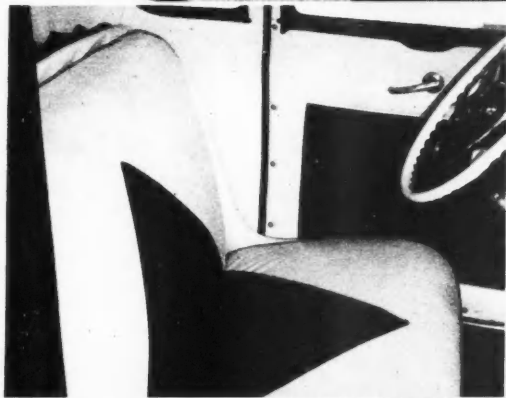
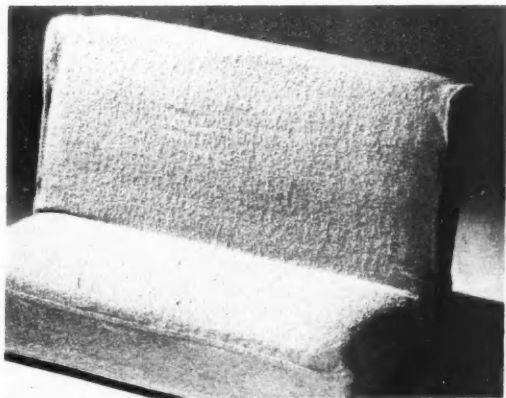
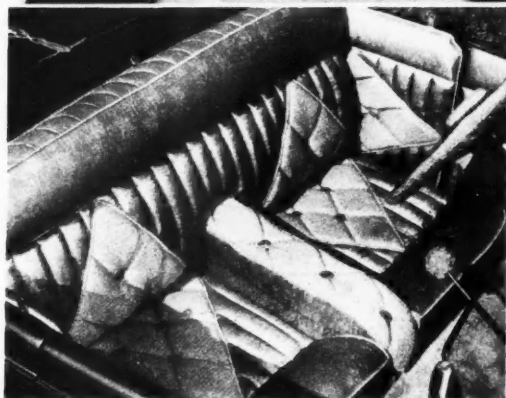
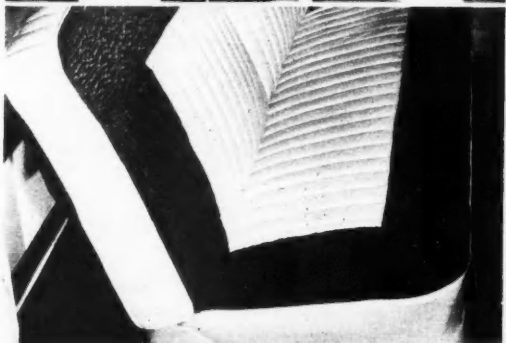
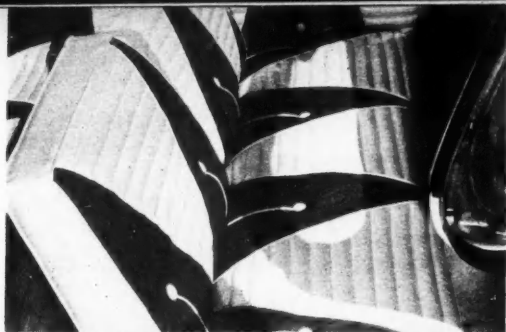
SINCE YOU SPEND all of your driving time *inside* your car, the pride you take in its interior can greatly affect your motoring pleasure. If your upholstery, headliner or floor covering is shabby, dingy or torn, why not "give the old bus a new look?"

A logical start can be made with new seat covers or you can jump to custom-fit upholstery in materials with a wide range of choices and prices. As with external customizing, it's wise to plan your work in progressive stages — it helps not only esthetically but also budget-wise. There are many reputable custom upholsterers who will be glad to discuss your ideas with you — or suggest ideas of their own. If you wish, you can go all out by installing TV, hi-fi, record player, telephone, etc.

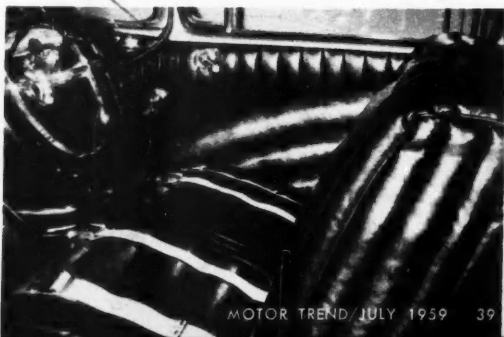
Here are some specific tips: many new plastic materials will hold up better than leathers; use nylon thread for seams; fill pleats with air foam — cotton may separate and wad up in time.

Whether "mild" or "wild," a new interior will add to your car's value — and driving enjoyment, too.

Photo Story by George Barris



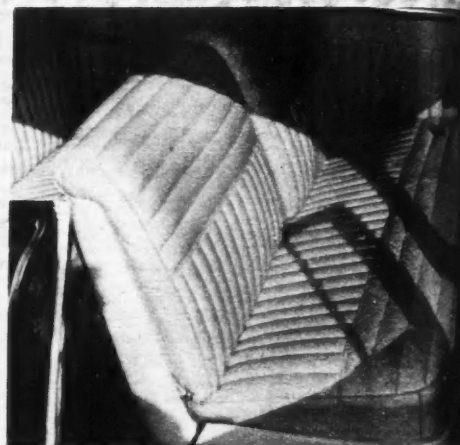
Protecting and beautifying seat upholstery can be done with a variety of materials and techniques. As shown at left, you can start with simple terry cloth covers (\$4.95), or take your choice of fiber, Saran, rayon, nylon — or clear plastic (\$20 up) to maintain that factory-fresh look. Naugahyde covers with simple design can be sewn for about \$50. Prices for rolls and pleats start at \$100; horseshoe design and French seams (below left) cost \$160 for front and rear seats. (Above) Various combinations of lightweight naugahyde (from \$3.60 per yard) with luxurious boucle (\$7.50 and up) can be used for added richness. Wide pleats (below) are in naugahyde and coehyde.



Pleats and rolls . . . headliners and rugs



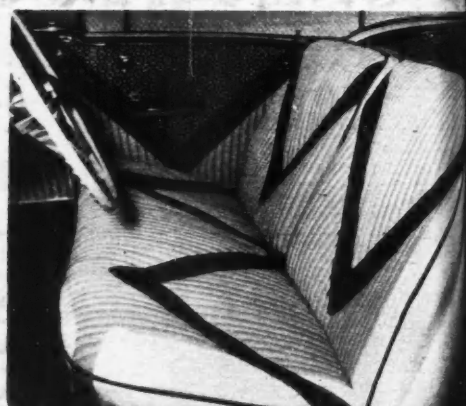
Two-inch straight vertical pleats in naugahyde, with inner sewn panels — a good start in custom upholstery — can be had for \$85 up, front and rear seats.



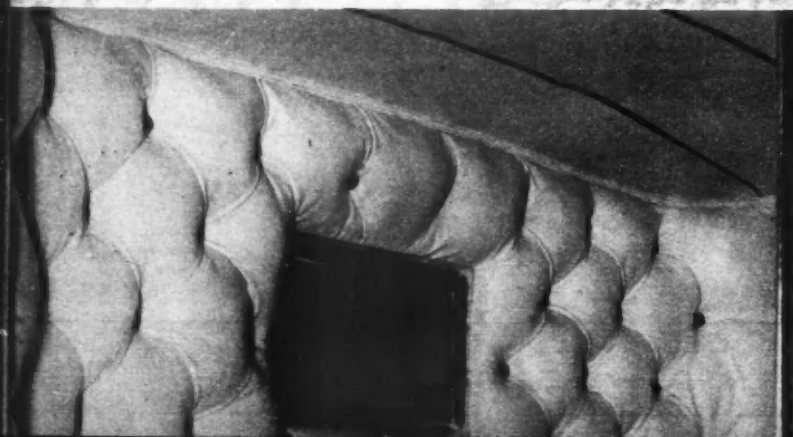
Next step might be cross pleats — horizontal top head roll pleats with vertical seat panels. Using Fabrilite materials, prices start at \$125.



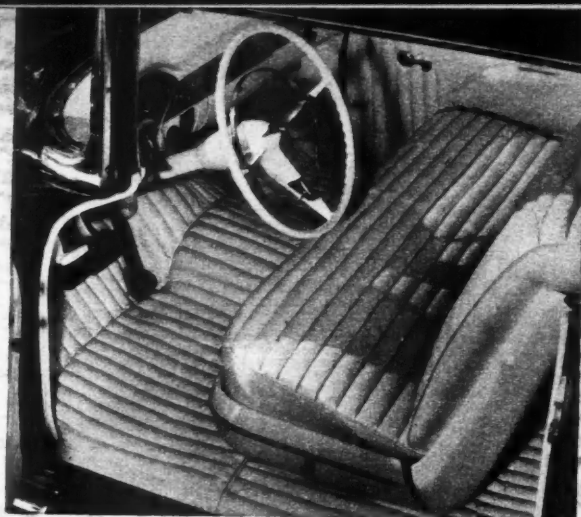
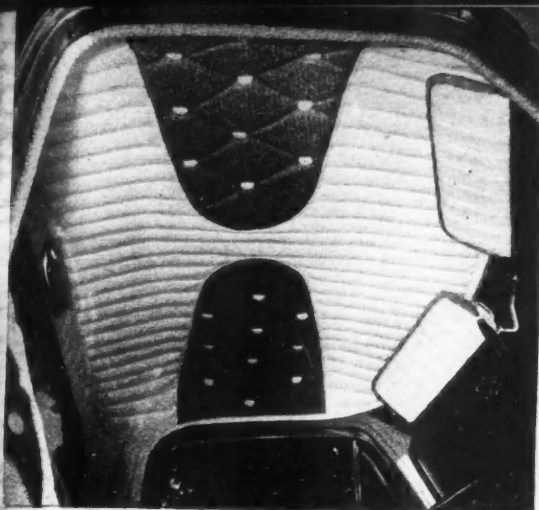
Inlaid two-tone pleating will run higher (prices start at \$150) since it is a little more difficult to panel and requires more sewing to alternate color strips.



"V" insert is first sewn into pleated panels, then upholstered. Door panels can be in mesh material or the self-adhesive trim like Gold'n Chrome.



Quilted, puff-paneled back headliner section is hog-ringed into wire mesh to extend quilts. Sewing on underside of lap seams hides threads.



(Above left) New 3000-denier filament acetate (\$8.50 per yard) is made into air-foam-filled diamonds, then sewn into naugahyde pleats, and hog-ringed to metal headliner straps. Sun visors are also finished in matching pleats. Cost: \$100 up.



(Above) Pleated rugs for entire floor area (from \$65) match seats in this Chevy — more for show than actual daily use.

(Left) Custom-chromed ribbed steel pads are installed over floor carpets to protect wear spots. Three-bladed bullets from California Custom Accessories add to interior glitter.

(Below) White shag rugs are used mostly in custom show cars, are difficult to keep clean. Priced from \$5 up, they permit many unusual applications — note the covered pedals.



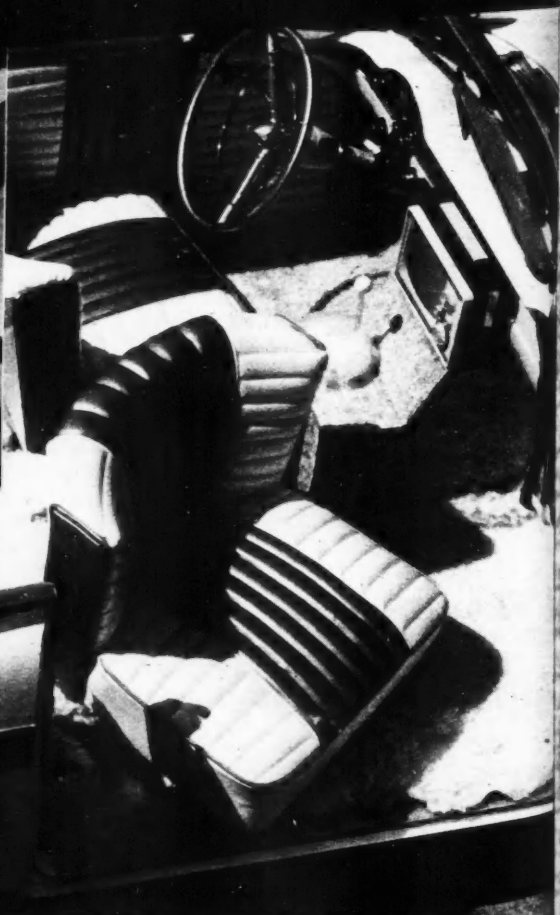
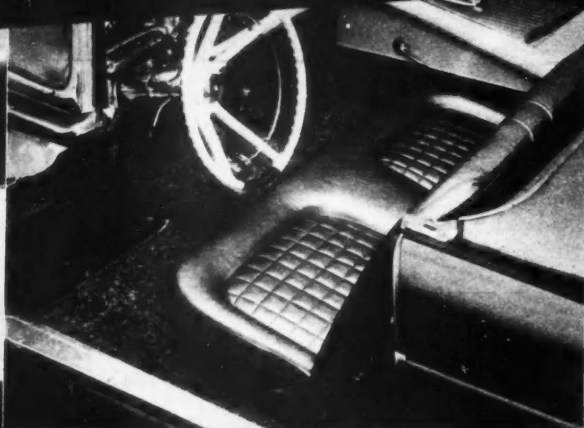


Dual single buckets are made from aircraft seats, covered with snap-on air-foamed pleated and rolled covers used for shows, stripped down for drag racing. Bucket costs \$8.95.

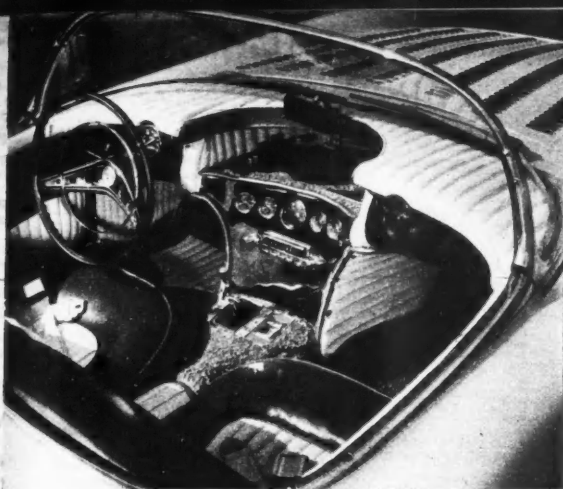


'35 Chevy bucket-type seat is converted into swivel, then upholstered in pearl naugahyde. Rug floor is for show display, but seats will stand rugged use.

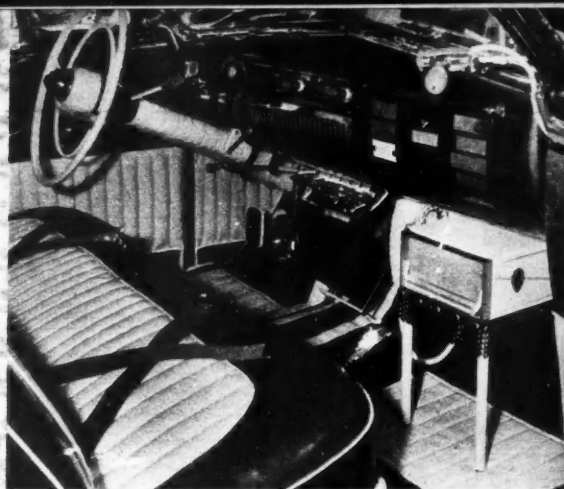
Buckets and swivels . . . dashes with class



Cover car has TV rocking chairs that have been converted into swivels, using single swivel plate. Gold and white naugahyde has produced distinctive vertical pleats. Original seats cost \$45 each. Inset photo shows bench buckets in T-Bird finished in Versilan, with square-stitched filled panel.



Corvette dash has old instruments removed and Stewart-Warner gauges installed into new handmade center section. Half-circle cutout houses six-record changer 45 player.



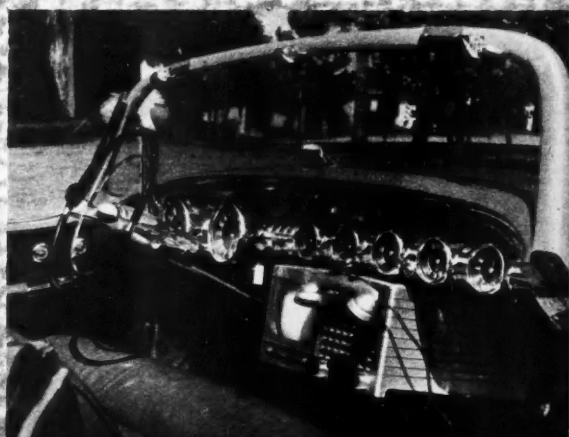
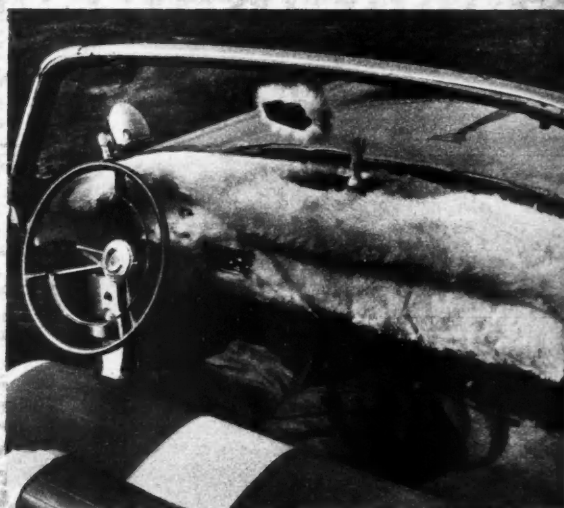
Hi-fi record player stands beside floor hump, with record rack alongside. Converter changes 12-volt D.C. to 110 A.C., also powers other accessories.



(Above) Two-tone painted dash has hand-stripped dividing line; Krom Tape can also be used for styling distinctive dash and cowl designs. Five-way laminated knobs from California Custom Accessories are fitted onto dash instruments. Single 45 record player mounts under center of dash, is powered by small Travel-Lodge converter (\$14.95).

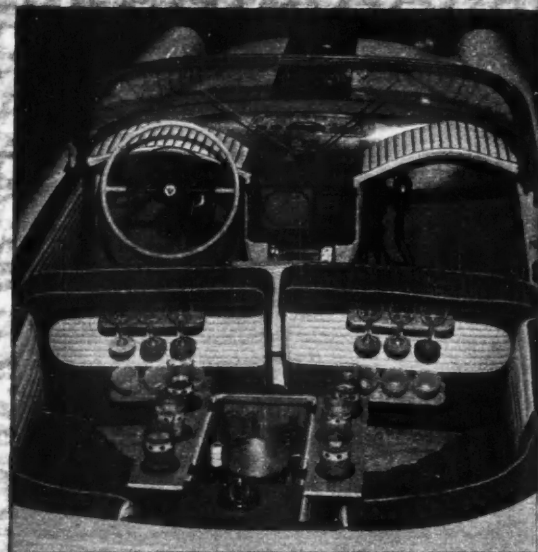
(Above right) Acrilan fur rug material, at \$10.95 a running yard, offers a unique though expensive dash treatment. Trim-cemented to dash panel, fur is difficult to keep clean.

(Right) GM's experimental "Le Mans" Cadillac displays a handmade dash with unusual dials completely across panel. Cost of designing, engineering and custom construction of dash has been estimated at \$10,000. In addition to 10-in. TV set, powered by converter in trunk, car has telephone.





Removable 12-in. TV set in front, built-in 45 record player and radio in rear. Some states do not allow TV installations in view of driver; check the motor vehicle laws in your own area.



Fully customized convertible has 10-in. TV, tape recorder, stereophonic radio, refrigerated bar, telephone, twin loud speakers — all powered by a 450-watt, 12-volt Carter converter (\$250). Seats and dash are handmade.

**TV, Hi-Fi, record players
... for music on wheels**



Restyled dash has cotton insert padding, with 45 record player cut into circular section. Center-mounted chromed speaker is also connected to the radio unit.



Large TV home set — mounted in back of front seat — represents a legal installation. Note the refreshment bar units inserted in side panels.

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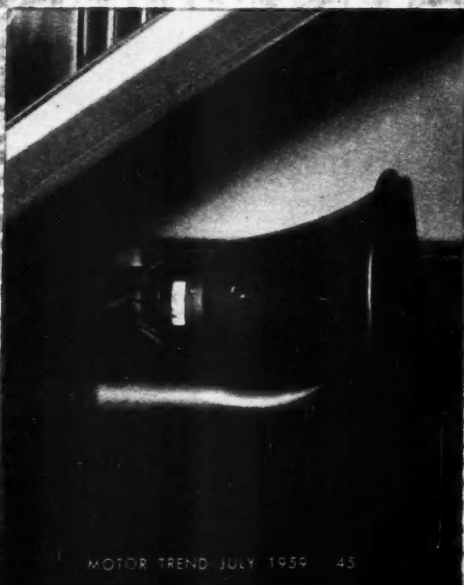
Portable-type inverter, mounted simply in trunk, has 110-volt AC outlet to furnish power for TV, tape player and under-fender loud speakers. Such inverter units are available for six- or 12-volt systems.



Here is a relatively simple installation that has a number of uses. Tape recorder and power converter (top photo) are installed in the trunk, with microphone and remote control leads in driver's compartment (above). Operator can record and check playback with under-dash speakers. Twin loud speakers are mounted under front fenders (below) and can be used for making announcements or playing music at outdoor gatherings.



Swivel TV in '59 Continental mounts between front seats, out to accommodate installation. Set has 100-yard cord, can be lifted out at picnic or beach.





*Apprentice
Designer Class*

Custom Car Contest

WINNER (shown above) in this month's entries in the Apprentice Designer Class is the customized Revell model of a '56 Buick submitted by Donald Roscher (13) of Los Angeles. In addition to being lowered in the front, the car has a custom grille, hood ornament removed, Lakes pipes, striping, two-tone upholstery, tonneau, rear seat speaker.

Honorable Mention goes to Herman D. Jordan (13) of Urbana, Ill., for two design sketches. One is for a duraluminum-reinforced fiberglass body for a Gran Turismo-type coupe. His second design is for an adjustable-vane impeller blade, turning in a pressurized oil bath, to enable a throttle effect on a constant-speed gas turbine engine.

ENTRIES FOR THE SECOND MONTH in the Project IDEAS contest continue to prove that one is never too young to start getting ideas for designing cars or styling features. Not only were sub-teens generously represented, but there were entries from two eight-year-olds, and even from two six-year-olds! This does not mean, however, that only youngsters are dreamers, for there were many thought-provoking ideas from older readers that showed an amazing grasp of automotive design concepts and ingenious applications of these principles. All of which goes to prove, we believe, that Project IDEAS can live up to the code words it represents.

In addition to U. S. and Canadian entries, there were some from Finland, Switzerland and Argentina. While these are not eligible for prizes — due to geographical limitations established in the contest rules — they can receive Honorable

PRIZES AWARDED EVERY MONTH

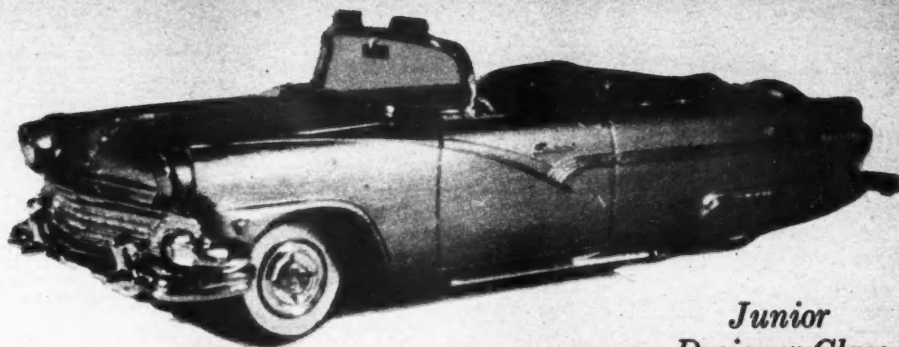
- SENIOR DESIGNER CLASS** \$100 Savings Bond
(Open to all entrants)
- JUNIOR DESIGNER CLASS** \$50 Savings Bond
(Entrants aged 18 or under)
- APPRENTICE DESIGNER CLASS** \$25 Savings Bond
(Entrants aged 13 or under)

GRAND PRIZES (awarded at year's end)

- FIRST PLACE:** A 16 x 32-foot \$3500 Esther Williams swimming pool. Installation included.
- SECOND PLACE:** An all-expense-paid trip for two to Washington, D.C.
- THIRD PLACE:** Brake linings for your car for the rest of your life.

Prizes are awarded jointly by Revell, Inc. and Motor Trend

For Contest Entry Blank, Rules, or more information, write: **PROJECT IDEAS, P.O. BOX 272, VENICE, CALIFORNIA**



Junior Designer Class

WINNER Robert A. Kraft (16) of Darien, Conn. semi-customized this Ford Sunliner, applied 15 coats of gold paint. Aptly named "Golden Ray," it has blue interior color scheme.

Project IDEAS

INDIVIDUAL DREAMERS ENCOURAGE ADVANCE STYLING

Mention, and we do wish to invite overseas readers to send us their ideas.

Entries reveal that there is currently a strong — and apparently growing — interest in smaller cars, since a number of designs were for cars of 100- to 110-in. wheelbase. An indication of car size preference . . . ?

Here are a number of suggestions for contestants that may make your entering more rewarding (and our judging much easier):

When submitting large drawings, mail them flat or rolled in a tube — to prevent bad creases. This will help ensure better reproduction, if they are used.

Try to keep your car designs in relative scale; make them "practical" as to size — in terms of passenger and luggage or cargo space.

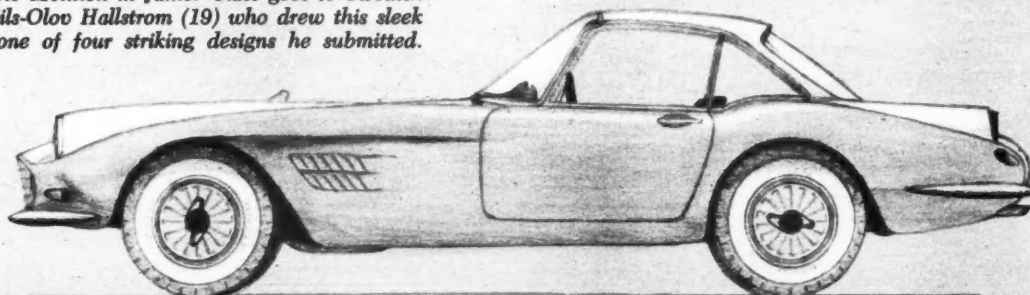
Even though you've entered once, you can do so again. Each entry must be accompanied by an entry blank, stating your age and the class you are entering.

If you're sending photos of your models — or full-size customized cars — be sure to have good quality prints made. It's impossible to judge from small, fuzzy photographs.

All contest material submitted becomes the property of Revell, Inc. and MOTOR TREND. And we're sorry that inquiries as to what we think of the drawings, models, etc. cannot be acknowledged.

This Project IDEAS contest is a continuing one, and will go on until the end of the year. If you've got an idea, a sketch, a model or a custom that you think is pretty good — send it in. It could win one of the monthly prizes — or one of the Grand Awards — listed on the opposite page.

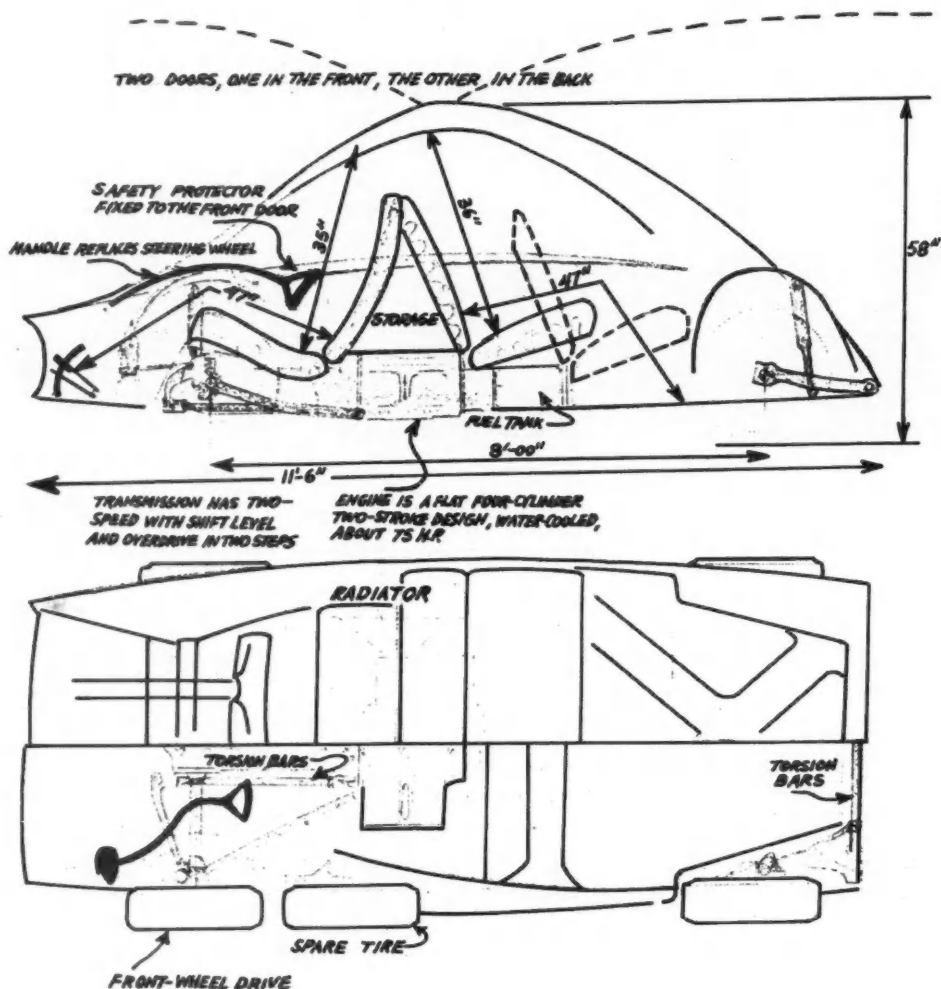
Honorable Mention in Junior Class goes to Swedish sailor Nils-Olov Hallstrom (19) who drew this sleek coupe, one of four striking designs he submitted.



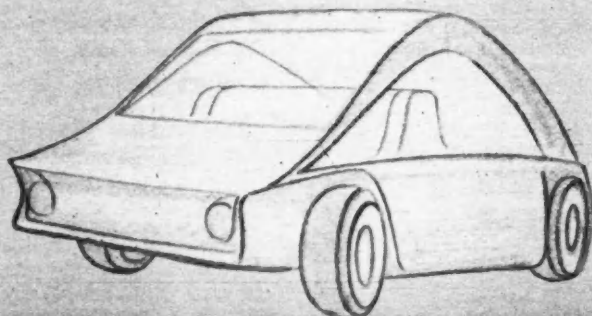
Custom Car Contest

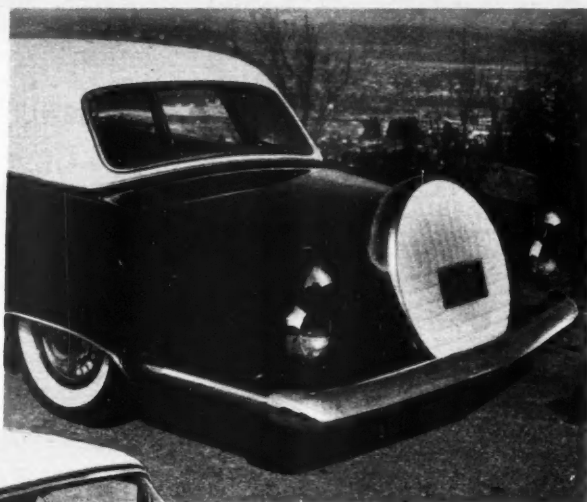
CONTINUED

Senior Designer Class



WINNER in Senior Class, M. Hilaire Bonneau (21) of Quebec, Can., proposed this five-seater small car. Two gull-wing doors (one front, one rear) open to back-to-back seats. Transversely-mounted engine is water-cooled flat four-cylinder of 75 hp. Front-wheel-drive vehicle, with torsion bar suspension, has tiller instead of steering wheel, with safety chest protector attached to front door. Body is of unit construction. The rear seat folds into floor recess for added cargo space.



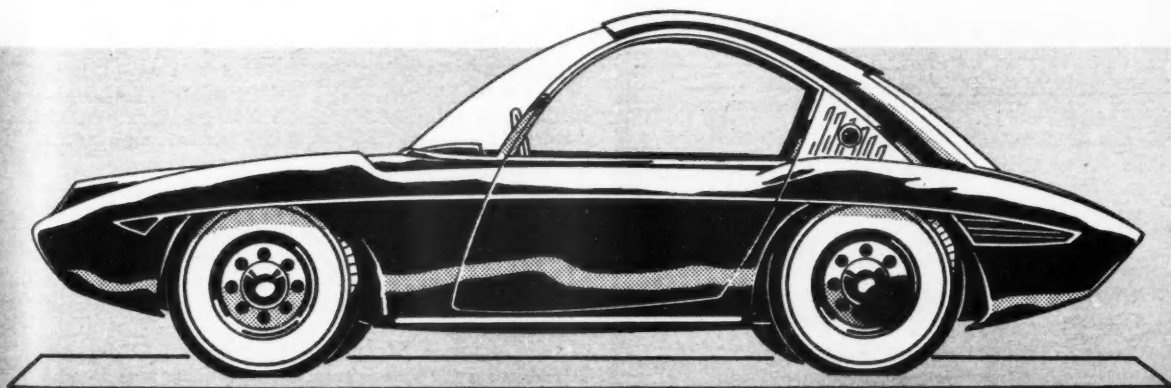


PHOTOS BY PETER SUKALAC



Honorable Mentions: (Above) '55 T-Bird customized by Stanley M. Jones of Portland, Ore., has top and rear tire cover finished in white plastic over foam rubber. Stock grille has every other bar removed; headlights are '58 Cadillac converted to 6 volts. Rear fenders, extended 5 ins., are fitted with Merc wagon tail lights. Outside exhaust pipes are routed through hand-made brass collars. Paint is candy apple red.

(Below) Neil F. Kimes of Van Nuys, Calif. designed rear-engined "Funcar." Two-cylinder, air-cooled 750cc engine develops top speed of 90 mph. Wheelbase is 84 ins., height 50 ins.; the lightweight frame is of tubular construction.



GETTING
MORE

GO

No. 4
of a
series



***For high-speed
power and
low-speed punch,
fuel injection is
one way to get
both — plus
instant throttle
response, too.***

Performance Associates probably install as many F.I. units as anyone else. Here, Les Ritchey swaps carbs for Chevy unit.

WAY BACK IN JULY, 1948 a young California hot rodder named Stuart Hilborn put a simple home-made fuel injector on a '34 Ford V8 engine, dropped it in a belly tank speedster, and proceeded to clock a two-way average of 146.46 mph on El Mirage dry lake. Ever since that time most of the sharper hop-up artists in this country have considered the conventional suction carburetor as an unnecessary evil—to be shucked off as soon as money was available for fuel injection.

The art of fuel injection has come a long way in these last 10 years, on street as well as competition engines. Several European cars, such as Mercedes and Goliath, feature it as standard equipment today. No less than seven American car manufacturers have offered it as optional equipment in the last three years (though only Chevrolet continues it for '59).

(In March '58 MOTOR TREND's Racing Editor Sam Hanks tested four Corvettes. Two of these were identical,

fuel injection

by Dean Parker

other than that one was the 245-hp dual-quad-carbureted Corvette, the other a port-injected 250-hp Corvette. Though F.I. on paper helps low-rpm performance more than the high end, both cars gave identical 0-60 times of 7.6 seconds. Difference in top speed was 1.6 mph. However, driving on the 3.3-mile Riverside Raceway, which is the purpose for all the paper work in the first place, Sam averaged 72.0 mph with the quads, 73.5 with F.I. In competition, over say 100 laps, this margin is quite often the only difference between the car that finishes first and the car that finishes last.)

In just the last few months a couple of California specialty equipment houses have brought out bolt-on injection kits to replace standard carburetors on U.S. cars—and, of course, in the category of all-out competition engines, you're nobody if you're not running a Hilborn or Algon injector setup.

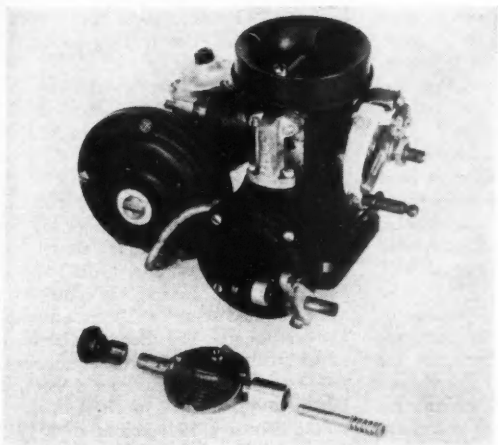
So the obvious questions: Does fuel injection have anything to offer *you* on *your* car? If so, what equipment is available, what does it cost, and where do we get it? Let's start from the beginning . . .

WHY FUEL INJECTION? Any internal combustion engine must be fed a "working fluid," consisting of a mixture of vaporized fuel and air—and the mixture *proportions* here must fall within quite narrow limits for optimum operation. For instance, on a spark-ignition automotive engine we need a mixture ratio of 15 or 16 pounds of air for each pound of gasoline to get maximum fuel economy when cruising. For maximum power the air/fuel

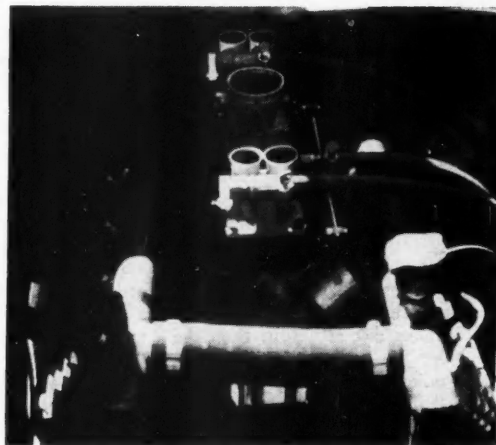
ratio should be about 12½ to 1. It's the job of the carburetor to mix the fuel and air, and to give the proper mixture proportions.

Actually a modern carburetor does a pretty good job of metering the proper air/fuel ratio over a wide range of operating conditions; the headaches start when we try to get the mixture from the carburetor to the cylinder through a tortuous network of manifold passages. Air flow turbulence and inertia effects tend to separate the fuel droplets from the air, so we're bound to get more fuel in one cylinder than another. Variations in air/fuel ratio of as much as two or three full points between cylinders have been measured. Result: Each cylinder doesn't do the maximum amount of work—and we have to enrich the carburetor mixture enough to keep the leanest cylinder from misfiring or burning valves, which wastes more gas by overloading the richer cylinders.

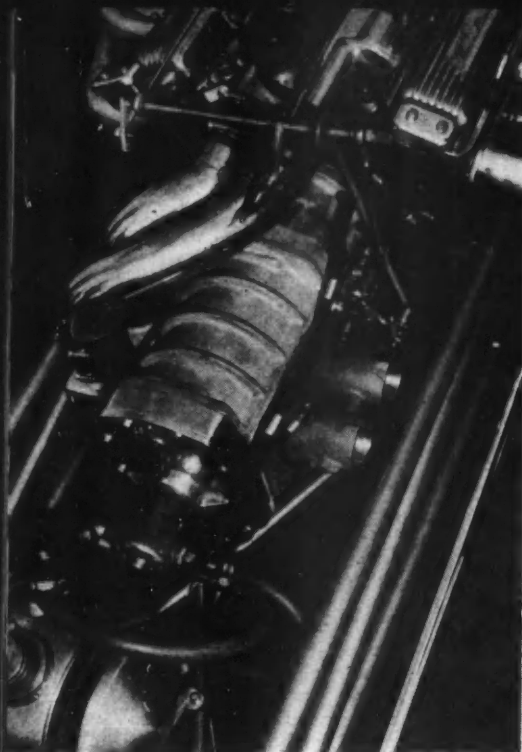
This mixture distribution problem is further complicated by the carb venturi. Normally the gasoline is *sucked* into the air stream by passing the air through a necked-down throat (venturi) that creates a slight vacuum to draw the fuel out of a nozzle. The greater the air flow the more the suction—and the more finely atomized will be the fuel spray coming from the nozzle. This makes it easier to distribute equal air/fuel ratios to the various cylinders. But at low engine speeds when air flow is small, there's not enough venturi vacuum to atomize the fuel—and the gas just literally drips into the manifold. No good. We can help the low end by making the venturi throat smaller . . . but this increases the breathing



Injector carburetors, like the Norden, give some advantages of fuel injection without adding disadvantages. Their value lies in their docility for street machines.



Scott injector carburetor, much like Norden, can be used with several variations. Here, "97" in center for low speed, Scott units cut in on progressive linkage.



Dragging, once looked on as surreptitious mischief, has become the modern-day crucible of high-performance engines. Slip-stick boys who said it couldn't be done watch it being done on dragstrips by hot rodders who didn't know they couldn't do it. Here, an injection setup is bolted to a big blown Corvette.

GETTING
MORE

GO

continued

restriction at the top end and reduces horsepower. So the result is compromise, with plenty of sacrifice on both the high and low end.

There's one final carburetor headache—throttle response. Due to the distance between the carb and cylinders, and the inertia of the fuel, you don't get an instant punch of power when you punch the throttle. It takes time to get that rich mixture into the cylinder to do the job. Carburetors have accelerator pumps that shoot a jet of raw gas into the manifold when you jump the throttle; but this is only half an answer—and we waste gas to boot. This shot of fuel compensates for the fuel droplets that settle out from the mixture.

At this point, some of the attractions of fuel injection should be pretty obvious. By spraying the fuel directly into each cylinder—or even each intake port—we can eliminate about 90 per cent of the carburetor problems with one swoop. We get nearly perfect mixture distribution be-

tween cylinders, we get equally good metering at all engine speeds, we get instant throttle response at all speeds—and, very important, we can eliminate or greatly reduce the venturi restriction that is an inherent characteristic of any suction carburetor. What's more, fuel injection systems don't necessarily have to be complicated Rube Goldberg gimmicks that would tax an M.I.T. brain. We don't even have to squirt the fuel into the ports in timed shots to coincide with the suction stroke; we can just spray it in as a constant stream, which seems to work just about as well, at least up to quite high rpm.

We can simplify things still further by accepting certain compromises with the "injector carburetor." Here we mix the fuel and air in a central carburetor and distribute it to the cylinders through the normal manifold. But the fuel is *injected* into the air stream under pressure, rather than depending on venturi suction to draw it in. This insures good fuel atomization at all speeds, and the very best mixture

distribution and throttle response that it's possible to get from any central air/fuel mixing device. (Injector carburetors have been used for years in the aircraft field.)

So there are lots of possibilities for applying the fuel injection principle—literally *pressure metering*—to the automobile engine.

WHY NOT FUEL INJECTION? Practically all the major inherent disadvantages of fuel injection lie in problems of cost, complexity and servicing. Let's face it—you can't beat a carburetor on these factors. Fifty years of development have made this one of the most reliable, long-lasting components on your car.

"Detroit" F.I. systems have all been very complex and costly. For instance, look at the Bendix electronic system that was offered on some Chrysler Corp. and American Motors models in 1957 (and has since been dropped). This injected the fuel in timed spurts; injection force was supplied by individual electric solenoids on each cylinder port, and the amount of fuel injected was controlled by a complicated system of electronic sensors and amplifiers. The Bendix system was undoubtedly the most precise and responsive automotive injector ever developed—but there was just too much of it.

(In February '58, when *MOTOR TREND* tested the Chrysler 300-D, it was pointed out that the 392-cu.-in. "D" engine is rated at 380 hp with dual Carters, 390 with F.I. The F.I. package, as well as being

extremely complex, was a \$500 extra. The boost cost \$50 per additional horsepower!)

The current GM-Rochester system offered by Chevrolet is no grade-school mechanics problem, even if it is the "simplified" constant-flow type. Nothing less than the resources of our country's largest corporation would have enabled this accessory to be put into production and into the field. To get adequate air/fuel mixture control over the full range of automotive operating conditions (from a sub-zero start to 120 mph in 100° weather!), it is necessary to use a venturi air meter—as well as provide auxiliary enrichment devices for starting, idle, full throttle. Competition injectors of the constant-flow type can control the mixture with a simple throttle linkage. The Chevrolet fuel injection system is an amazingly reliable mechanism, everything considered—but you still pay in the form of a \$484 optional cost and relatively high service costs.

Perhaps a better answer for you may be one of the new accessory injector carburetors...

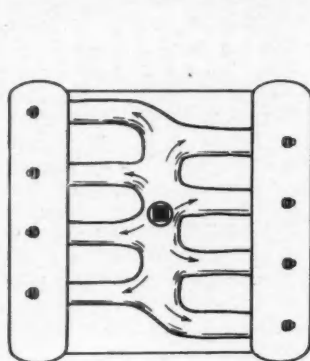
THE NORDEN INJECTOR This simplified carburetor bolts right onto most any single-carb manifold through one of several commercial adaptors. (Or they could be used on a multi-carb manifold.) There is one large barrel, but no normal venturi; the fuel is supplied to the carb at about one pound pressure (through a pressure regulator from the stock fuel pump), and is sprayed into the air stream through slots in the hollow butterfly shaft. A needle valve in this shaft is operated by a cam-and-lever linkage from the throttle, to control the air/fuel ratio according to throttle opening.

Obviously this is not a very precise way to control the mixture. That is, with wide-open throttle the same amount of fuel would flow at 1000 rpm engine speed as at 5000—whereas the air flowing into the engine would be roughly five times as much at the higher speed. If the mixture were adjusted correctly at the top end, it would be very rich at the low end. Usual practice is to adjust the mixture for best power at the top end, and let the extra-rich mixture at low speed aid acceleration and throttle response. Seems to work fine.

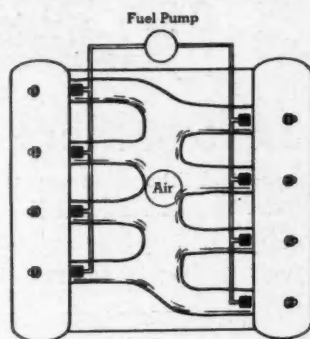
Biggest disadvantage of the Norden: Even though this device gives much less breathing restriction than an equivalent-size single-throat carb, there is still not enough flow area to feed a big-inch, free-breathing V8. In other words, don't expect one Norden to give the horsepower of three or four two-throat carbs; if you want power, better figure on at least two or three of them on a special "California" manifold.

THE SCOTT INJECTOR This "pressure carburetor" is similar in principle to the Norden. The injector unit itself is nothing

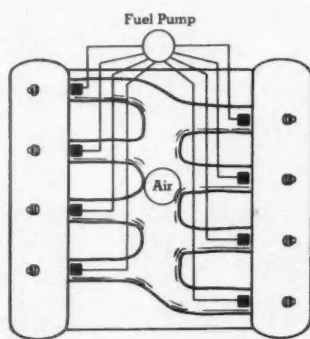
BASIC TYPES OF FUEL INJECTION SYSTEMS



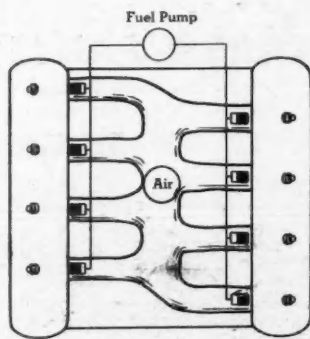
Injection Carburetor
(Norden, Scott)



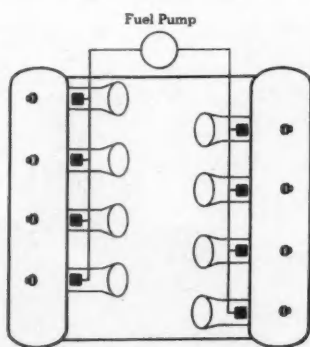
Port Injection
Common Rail—Constant Flow
(Rochester)



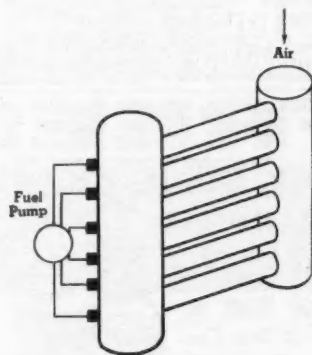
Port Injection
Distributor Pump—Timed Flow
(Borg-Warner)



Port Injection
Common Rail—Timed Flow
(Bendix)



Port Injection
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(Hilborn, Algon)



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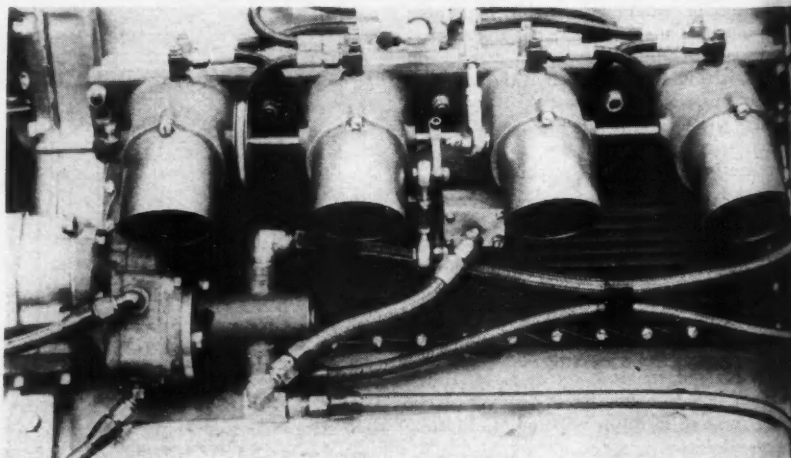
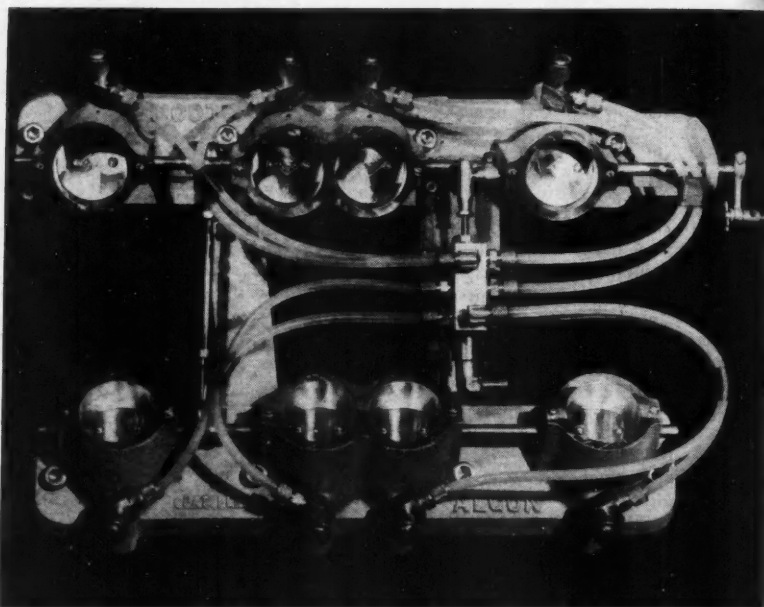
DEALER QUANTITY

Getting More Go

continued

more than a thin flange that bolts on a standard Stromberg Model 97 carburetor base, so it uses the Stromberg twin throttle assembly. (These carburetors were used for years on Fords, so they're plentiful and dirt cheap in junkyards and parts stores.) A screw-type mixture valve is located in the flange casting, operated by a linkage from the original throttle lever; the screw lever also has an adjustment to permit you to adjust the mixture with the throttle in one position. The Scott injector is designed to operate at three to seven pounds fuel pressure, so the stock fuel pump is adequate (preferably with a pressure regulator).

Obviously this carb is subject to the same rich-lean mixture variations with speed as the Norden. And it still seems to give a better low end and throttle response than normal carbs in spite of this (probably because of the superior fuel atomization). Some fellows have fitted triple manifolds on their V8 engines, with the Scotts at each end and a standard 97 carb in the center. The end carbs are operated by a progressive throttle linkage so they open only at full throttle, and the mixture is adjusted for this condition. Or some have done just the opposite—put a Scott in the center, adjusted for the low end, with 97's at each end for high speeds.



Top, Algon injection system ready to be bolted to V8. Stacks are not yet installed. Injectors are located in ports, just below butterflies. This is full competition. Bottom, Hilborn installation on the Indianapolis winner in '57 and '58: the Belond Special. Engine is inclined to nearly horizontal position, stacks are angled to horizontal, tuned.

COMPETITION INJECTORS Whenever fuel injection is discussed the question always comes up whether it would be practical to run these competition setups like the Hilborn and Algon on a machine tuned for both street and racing. These use special stub manifolds that fit on the head ports, with a nozzle and throttle butterfly in each port. Fuel is sprayed into the port in a constant stream, the amount controlled through a metering valve according to throttle opening (just like the Norden and Scott injectors). The Algon feeds the fuel to the metering valve at a more or less constant pressure of seven to nine pounds, so we get the familiar rich-lean effect at both ends of the speed range. The Hilborn, on the other hand, uses a positive-displacement fuel pump that gives a pressure output just about directly proportional to rpm (up to a maximum of about 30 pounds). This gives a more even range of air/fuel ratios as the engine accelerates from low to high speed.

At first glance it might seem that this layout would be suitable for street use. Actually, Stu Hilborn would be the first to discourage it. A street engine needs the "damping" effect of the air mass in a closed manifold to give anything approaching smooth running at low speeds, especially when the throttle is being opened and closed suddenly. With the long valve overlaps and open durations employed today, the mixture wants to *back up* out of the intake valve at low speeds almost as much as it wants to flow *into* the cylinder. The manifold chamber acts as a buffer to control this surging.

So we can't honestly recommend Hilborn and Algon injectors for any street machine . . . but, if you insist on experimenting, the Hilborn variable-pressure deal would probably work better than the constant-pressure Algon.

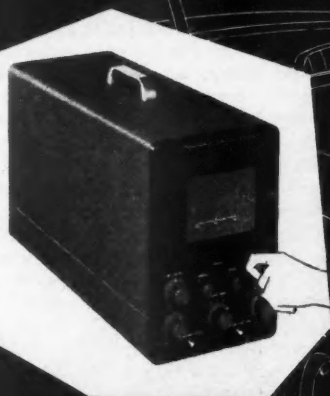
THE OVERALL PROBLEM There is little doubt any more but that fuel injection is the coming thing for all Detroit cars. The untimely demise of the Chrysler, A.M. and Pontiac systems may have left you wondering; but rest assured that *all* the companies are experimenting with various F.I. ideas in their dynamometer rooms and on the test tracks. Systems developed by Thompson Products, Borg-Warner, Holley and Simmonds are being tested alongside improved versions of the Rochester and Bendix systems. Nobody knows yet which way the ball will bounce, or when. But we know that this is the *right* way to feed fuel to a multi-cylinder piston engine. It's just a matter of time.

Whether fuel injection is the answer for you—today—is another question. For one thing, your choice of equipment for a street machine is very limited. In present production there's only the Rochester system optional on Chevrolet 283-cu.-in. blocks (which can be installed on earlier engines, incidentally) and the Norden and Scott injector carburetors. **continued**

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Getting More Go

continued

What can this equipment really do? If you're primarily after top-end horsepower, these various street injection systems have no important advantage. They may give less breathing restriction per square inch of throat area, but a little larger carb size will give the same effect. (The Chevy injection system, in fact, appears to give a little more restriction at 6000 rpm than dual-quad carbs.) So in all cases we will have to look to the low-end street performance for any advantage in F.I.

Anybody who has driven a well-tuned Chevrolet system can appreciate the vast superiority over carburetors in general part-throttle flexibility and throttle response. You pay a lot for the difference—but it's there. Even the simple Norden and Scott injectors, with their mixture compromises, score over carbs on the street—through superior fuel atomization. Possibly the most logical use for these would be in out-and-out economy setups. If you used just one of them on your engine, the top end would be automatically choked off by breathing restriction, so you couldn't throw away a lot of gas there. And the excellent mixture distribution at the low end would give such torque and flexibility that large throttle openings would not be needed in normal driving. If properly adjusted, such a setup might average nearly 20 mpg on a 200-hp car. Whether all this is worth the \$25 to \$110 tab per carb, only you can say. /MT

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Next month we'll talk about supercharging — "blown" multi-carbs, "blown" F.I., or just plain bolting on a blower—probably the biggest power return per dollar investment.

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CEDAR RAPIDS: Strum Auto, 413-15 N. 2nd
DES MOINES: United Auto, 400 13th St.
WATERLOO: Exco Supply, 901 Syracuse

KANSAS

LAWRENCE: Pippert's, 211 E. 8th St.
MURPHYSBORO: A. C. Fink, 1021 S. Main
MURPHYSBORO: Walter Elze, Box 95
SALINA: Salina Springs Serv., 422 4th
TOPEKA: Gregg Tire, 300 W. 6th St.
WICHITA: Hall's Speed, 1200 Lincoln
WICHITA: Phipps & Sons, 3206 S. Hwy.

KENTUCKY

CORBIN: Owens Custom Shop, 300 3rd
LOUISVILLE: Clary, 225 Stalling Dr.
LOUISVILLE: Consolidated Sales,
1017 W. Jefferson St.

LOUISIANA

BATON ROUGE: Marks, 1917 S. Canal
BATON ROUGE: Muffler Mart, 419 19th
BATON ROUGE: Muffler Shop,
4085 Florida, 3232 Plank
HAMMOND: Muffler Mart, 308 S. Wilson
LAKE CHARLES: Marks Auto Sup. Co.,
2204 Ryan and 610 Broad
NEW ORLEANS: Late Model Auto Parts,
2945 Poydras St.

MARYLAND

BALTIMORE: Vicenti Auto, 2515 N. Point
LANE: M. Gear Tire, 304 Dunder Ave.

MASSACHUSETTS

SPRINGFIELD: Meyers Auto,
229 Memorial

MICHIGAN

DETROIT: Hot Rod Shop 8249 Grand River
DETROIT: Great Western,
15521 Grand River
GRAND RAPIDS: Rames, 2601 S. Division
KALAMAZOO: Hartman, 616 Portage
ROSELAND: United Auto, 30712 Detroit
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AUSTIN: Amer. Auto, 1303 E. Oakland
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VICKSBURG: Nick's, 1723 Washington

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GREAT FALLS: Speed Access, 812 1st

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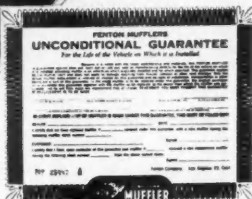
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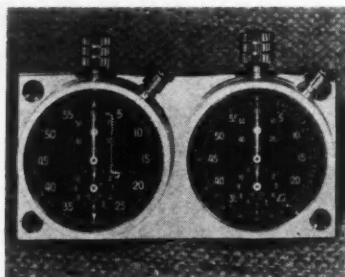
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Shopping FOR YOU AND YOUR CAR

COMPETITION CALENDAR If you use a calendar, you might as well use an interesting one. We came across one with GP, sportscar race and rally schedules placed on the month-page when the event takes place. In addition, there is space provided to pencil in interesting local races, in advance of their running. Each page is decorated with a color drawing of a racing car and a scale map of an interesting course, making a good wall decoration.

To get one, send \$2 to International Competition Calendar, P.O. Box 25147, Houston 5, Tex.

BRACE OF WATCHES A beautiful set of Heuer Autavia watches, mounted on a solid block and chromed, is suitable for a multiplicity of uses. Both watches are graduated in fifth-seconds, the right has marginal markings that convert elapsed time over a measured mile to velocity. In each, one sweep of the hand covers one minute; two recording dials cover minutes and hours, up to 12 hours.



Suitable for mounting with pride anywhere, the brace is available at \$90 from Joe Zidar, 2450 Lewis, Lakewood, Colo.

BOOK DEPARTMENT The 1959 Reference Handbook of *The Motor*, edited by their own P. A. Turner, is available in pocket-book size. As complete a reference as we've ever seen, it includes specs and prices, full competition and rally listing, all the '59 *Motor* road test data, maps of the principal international circuits, world's records, and just plain old data on just about everything automotive.

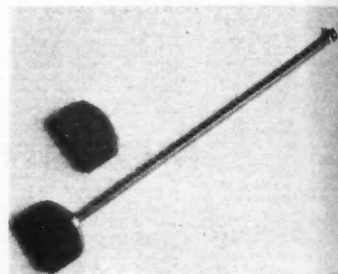
Published by Temple Press Limited, Bowling Green Lane, London E. C. 1, it sells in England for six shillings (about 85¢, plus postage). Ask at your book store.

"BRITISH SPORTS CARS," by Gregor Grant, brings the development of British motoring from its earliest beginning to the present. It is filled with extremely interesting bits about extremely interesting cars and personalities, many of which are just names a few old-timers remember.

There are illustrations galore, right up to the newest BMC Twin-Cam. There is also a section on accessories.

Priced at \$4.95, *British Sports Cars* is available from British Book Center, New York, or ask at your book store. It's almost necessary background for the enthusiast.

AUTOMATIC SPONGE "Dew Boy" looks like a good idea—a sponge on the end of a lightweight pipe that connects to a hose. Just turn the water on. When the sponge is applied to the surface to be washed, water automatically pours through. Lift the sponge from the surface, and the water is stopped by a cutoff inside the sponge. The whole unit weighs 10 ounces.



Sponge is practically indestructible plastic, hard to tear or wear out. When it becomes too dirty, it can be easily replaced. Available at \$2.98 from Hopkins Mfg. Corp., Emporia, Kan.

SWIRLING SAFETY LIGHT Bowers Battery and Spark Plug Co. of Reading, Pa., is marketing, through retail outlets, a five-ounce safety light for \$1.98. Made of styrene, it's available in five colors—red, amber, blue, green and clear—with both magnet and clip to secure it most anywhere. Self-contained penlite batteries supply power, making it a good accident safety light. It automatically rotates and waves at the slightest vibration, or it can be used as a flashlight by removing the colored lens.

Ask at your outlet store, or write to the manufacturer.

NOVELTY LITTER BAG For convenient disposal of dirty Kleenex, candy and gum wrappers, empty cigarette packs, etc., Novelty House, Box 8M, Pasadena, Calif., offers a

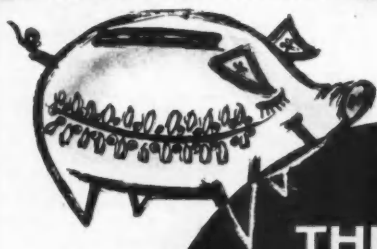


handsome litter bag. The seams are stitched and strong, and the bag, priced at \$1, is almost too good to be used for rubbish.

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"We are trying your \$200 a year plan! Just sold our (2) 1958 wagons. **TOTAL OUT OF POCKET WAS \$363.** We have ordered our 1959 wagons following your advice." J.M. "I think your system is great." W.D.M. "Congratulations on furnishing a real service to American Motorists." F.S. "It is more than you said it was." E.G. "Have recommended it to all my friends who plan to purchase new cars. I hope you keep up the fine service." S.S.



"**SAVED \$400** by buying through your organization. Well satisfied with '56 Ford." D. W., Packwood, Washington.

"**SAVED \$500** on 1958 Buick. Hope you keep up the good work." M.R., Chicago • "**SAVED \$1000.**" F.D., Stockbroker, Skokie, Ill. • "**SAVED \$400**" C.L.C., Salesman, Macon, Ga. • "**SAVED \$800**" O.A.G., Syracuse, N.Y. • "**SAVED \$500**" W.D.L., Serviceman, Denver, Colo. • "**SAVED \$200**" J.F.C., Engineer, Hyattsville, Md. • "**SAVED \$200**" R.B.C., Sales Mgr., Salina, Kans. • "**SAVED \$300**" D.S., Planner, Bloomington, Ill. • "**SAVED \$300**" F.R.S., Serviceman, N.Y.C.

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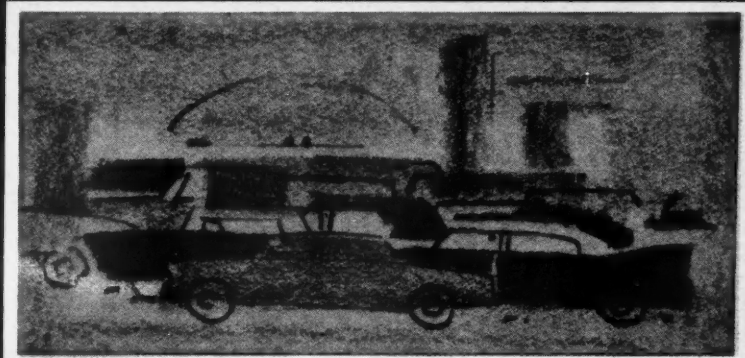
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aren't careful.

This is what happens to the average man. During his lifetime he spends \$25,000 on automobiles and at the end all he has to show for this investment is one car and \$25,000 worth of depreciation. The opposite of this sorry dilemma is the average automobile dealer who drives a good car through life without it having cost him a cent. In fact, he usually makes a profit every time he sells his car. This applies to the new car dealer as well as the used. The moral of this story is the basis of our service to you.

We have established a completely new type of service covering every aspect of automotive pricing and purchasing. Our members are as professionally informed about car prices and the car market as most dealers. One part of our service is supplying copies of the Auto Bluebook. This is a 96-page pricebook which covers the *wholesale retail* values of used cars all over the U.S., and the *wholesale retail* costs of new cars and accessories, plus payment charts, specs., etc. *This information is a must for buying wholesale or selling retail and in the past has been available only to dealers.* **MEMBERS Buy Wholesale.** We have arranged with certain wholesalers, new and used car dealers, in major cities: Detroit, Los Angeles, New York, San Francisco, etc. to sell to our members. What this will mean to you as a member is this; *you will be able to buy new or used cars at wholesale like a car dealer.* Through buying wholesale you will be able to offset the first year's depreciation and if you sell your car each year you will be able to drive a late model used car for little or no out of pocket and a brand new car for \$200

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1. 4 copies of Auto Bluebook—96 pages. Dealers pay up to \$50.00 for the information that is combined in this book. (Last year written up in AAA American Motorist Magazine (AUTO SECRETS), also Lawrence Galton's "More for your Money.")
2. 9 issues of B.C.B. listings covering fleets, rental, government sales throughout the U.S. Sent airmail.
3. Membership and I.D. card to purchase new and used wholesale* from dealers in major cities. *Wholesale on most new cars is \$100-\$150 over factory invoice.

or less each year. In effect, you will be buying and selling much like a car dealer and will be able to cut your transportation outlay down to where you may match the enviable records of the car dealer. Wild claims are not the purpose here, but if you have a penchant for horsetrading you could easily trade into a late model or new car on a minimal investment by buying wholesale and selling retail. You could start with \$500 and end up with a new or late model fully paid for out of profits from buying wholesale and selling retail. **Best Car Buys Listings.** Additionally you are informed through our 9 yearly issues of B.C.B. about fantastic bargains in cars, trucks, station wagons, etc., that are being sold throughout the United States. These listings cover thousands of cars available to you from Miami to Portland, and Los Angeles to New York. They cover the Nation's fleet sales, city, county, state, federal auctions (typical bid list 31 pages), rental cars, leased cars, etc. You will be informed by airmail in advance of sales so that you may take advantage of these opportunities as they become available. Many dealers avail themselves of our service for this reason. *What you will learn about car buying from one subscription can save you money on every car you ever buy for the remainder of your life.*

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READ WHAT MOTOR TREND SAYS!

From February Motor Trend

Car-Skin, a reconditioner for automotive finishes, is a fast-cleaning solution that dissolves surface scum and oxidation and removes them without hard rubbing. The manufacturer claims that this is accomplished without abrasives, and from the tests, we believe it.

Maroon finishes, known for their rather rapid weathering, usually wear thin in a short time due to the frequent "cutting" necessary to keep them looking like new. Abrasives remove an appreciable amount of paint with each use, as is shown by the paint color picked up on the rubbing cloth. The hood of a Mercedes 190-S that is seldom garaged and requires a lot of attention to keep it shiny, was treated once over lightly. With hardly more than the effort to work the solution over the area, the surface was restored to the deep smooth surface and color of the original paint. Only faint traces of the maroon color picked up on the cleaning pad, yet the paint surface was slick and free from any trace of oily film.

Car-Skin also works beautifully on household furniture, imparting a high gloss to finely finished wood and metal surfaces without leaving a dust-catching film common to many furniture polishes.

Car-Skin Products Corp., Flemington, N. J., sell their product through parts houses and service stations for \$1.45 for a 16-ounce can. To preserve the newly cleaned surface the manufacturer recommends the use of their Car-Skin advanced formula no rubbing paste wax, with a duration of up to 12 months, at \$2.00 per can.



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CAR-SKIN PRODUCTS CORP., Flemington, N. J.

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Best Buys in Used Cars

continued from page 23

we're talking about had the 245-hp V8 (also used in '58), but in '59 Ford engineers increased the compression chamber but decreased the compression ratio and actually dropped the horsepower rating back down to 225. Now they've found that regular grade gasoline does the job and they get much better gas mileage.

For 1956, our survey revealed no clear-cut preference of one make over the other, except that Ford and Chevy more or less tied for first choice and Plymouth remained in third.

Going back to 1955, public acceptance was again Chevy. This, as you will probably remember, was the first year for their V8 engine. Despite some oil consumption problems which hounded Chevs until the early '56 models, used car buyers still prefer the '55 Chevy over Fords and other makes.

IN THE MEDIUM-PRICED CLASS, opinions expressed are so varied that no clear-cut advantage of one make or model over another can be established except for certain generalities. For instance, Chrysler products have the edge of appeal to medium-priced used car buyers for the '57 model year. Back in '55, the general public went for Buick, but today those same cars that were readily purchased as new machines in '55 are slow movers on the used car lots in '59. In fact, according to our survey, there is an amazing trend of Buick owners trading their cars in on Chevs and Fords.

IN THE HIGHER-PRICED FIELD, Cadillac is and has been the only name really in the running for a good number of years. Continued low depreciation of these cars is positive proof of their wide public acceptance.

GOING BEYOND MODEL YEARS, body style and optional equipment play an important part in the "value" or going price of a used car. For instance, hardtop models depreciate less than sedans or convertibles. Two-doors depreciate slightly faster over the years. Convertibles, which are in demand only the first two years, become much less desirable as they get older because of the usual deterioration of the top and interior.

"The more 'loaded' the car, the easier it is to sell," is a maxim which holds pretty true in the used car business. As a used car buyer, you can avail yourself of all the power assist goodies at a fraction of the cost that the original owner had to pay. The value of a car without power steering or an automatic transmission skids down the dollar ladder pretty fast.

Should I buy a car that's been thoroughly and completely reconditioned, or should I select one that looks clean but is original throughout?

The answer to that one is difficult, to say the least. Actually, a lot depends on the integrity of the dealer selling the car. It is true that you can cover up a lot of sin with a new paint job, new floor mats and a steam-cleaned engine, but on the other hand unless a car has that "fresh" appearance, you might just

continued on page 65

THE ROAD TO BETTER MOTORING



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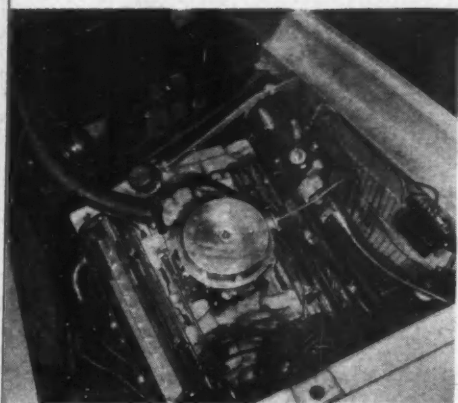
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Corvette engine fits neatly into the space left by 1.9-liter Ferrari V-12. The extra weight required that front spring be stiffened.

AUTOMOBILE DESIGN is never static. In some cases perhaps it should be. Consider some of the great Italian coachwork turned out in the early '50s by Vignale, Farina and others building bodies for high-performance Gran Turismos. It has been said that many Italian stylists reached a level of esthetic perfection in those formative post-war years which hasn't been surpassed.

Whether or not this is true, there is no denying that the Ferrari shown here is a thing of beauty—and it was crafted by Vignale in 1952. A fastback aluminum body with little overhang is set off by sparkling red and silver lacquer. The black leather interior combines to present a package which makes the car a true modern classic.

Originally powered by a 1.9-liter engine, the car was intended for long cruising, with brakes and handling characteristics to make it wonderfully safe and stable at high speeds. Its main fault was a lack of low end punch from a relatively small powerplant. Later,

PERFORMANCE

ACCELERATION (From standing start, two aboard)

0-45 mph	5.4 secs.
0-60	9.3
¼-mile	16.8 and 83 mph

limited-slip differential. He did not go all-out on the engine, utilizing the standard 283-cubic-inch with a single four-barrel carburetor and a high-speed rear axle ratio. This led to disappointing (for him) acceleration figures but still speeds which are highly creditable. The car is at its best during high-speed highway cruising.

We found it an exciting machine to drive, with seats designed to hold driver firmly in place. Visibility is excellent despite a rather high belt line. Heavy steering at low speed is the only result of the Corvette in-

ITALO-AMERICAN



MODERN CLASSIC WITH GO!



New engine and gearbox cost some legroom but the Ferrari is still an extremely comfortable touring machine; the ride feels solid, safe.

when the car found its way to the U.S., another problem became apparent: Fixing broken Ferrari engines is no business for amateur financiers. You can buy an American sedan for what it costs to pull the engine, ship it back to Italy (few parts here) and get it back in the car again.

It was with a broken engine that the original owner lost interest in his beautiful coupe. Conveniently, that was where the current owner, Don Oreck, entered the picture. Don had long been enamored of some of Italy's finest automotive creations and had owned several. When he discovered the fine condition of the Ferrari's coachwork he promptly parted with \$2500 (original cost about \$14,000) for the car less engine, transmission and differential.

Current practice dictates installing Corvette engines in unusual chassis. It has been proven that this gives the maximum in reliability and blistering performance. Oreck went the full route, including four-speed gearbox and

stallation. Otherwise it goes, turns and stops just the way Ferraris should.

Anyone considering such an installation should know that it is not cheap. A trouble-free workmanlike job, done by Warren Olson of Scarab fame, took three months and ran to about \$2200. This included building exhaust headers, adapting Chevy driveline components to fit the 88-inch-wheelbase Ferrari, modifying a Corvette radiator (very important to use original equipment for proper cooling), adapting the tachometer to run from the generator, switching the speedo so that it now reads in miles rather than kilometers per hour, beefing up the front spring with an extra leaf, adding a protective bar to the rear bumper and the countless other details which mean man-hours of labor. Added to about \$1400 for an engine, transmission and differential, the total investment is surprisingly high. But balanced against the end product, the cost seems very worthwhile.

—Wayne Thoms

Best Buys in Used Cars

continued from page 62

shy away from it anyway. Your best bet is to know the reputation of your dealer or used car lot; if they've been in the business for a good number of years and the scuttlebutt around town is not damaging to the operators, then the "absolutely clean" car, inside and out, certainly would be the better buy for you.

Is it wise to buy a car that is unusual in some respect?

Our survey indicates that radically modified customs, for instance, have practically "no acceptance" by the general public and are therefore poor investments as far as resale value is concerned. On the other hand, moderately modified cars (those that have been dressed up by undressing—moderate dechroming—with a few additions like pushbuttons, special hubcaps) usually go for premium prices, providing of course that the car not only looks immaculate but also is mechanically sound.

Where should you buy your car?

Your best bet, of course, is to have confidence in a new car-used car dealer; today, almost all such dealers have a complete history of any car they sell from the day it leaves the showroom floor. To give you a complete rundown on any particular car they have sold merely requires going to a file drawer and looking over the repair sheets. Such an establishment, needless to say, would be far better than an independent used car lot, which in many cases procures cars from new car dealers at wholesale, these cars being those which the new car dealer doesn't want to recondition or sell.

For the real bargain hunter, there's another source for used cars that's certainly worth looking into, and that is through wholesale outlets. One such outlet is "Best Car Buys," of Oakland, Calif. Briefly, this is a listing service—a publication that is sent to the subscriber every six weeks, giving scores of sources throughout the U.S. of both new and used cars that you may purchase at close to dealer's wholesale. The cars, which include American and foreign makes and nearly every year and model from 1950 on, come from giant auto wholesalers who sell large volumes of cars to used car dealers, from private company fleets who sell every one or two years, from distressed new and used car dealers who must reduce inventories quickly, from car leasing agencies, from public service or government agencies.

Such an outfit naturally is selling price. When you can buy a '57 Ford or Chevy for \$550—cars that on the retail market on the West Coast, for example, are selling for \$800 to \$1400 more—then you as an individual buyer are really saving a bundle of cash. It goes without saying that on such a purchase you might hit it lucky and get a car with say 5000 miles on the odometer; more likely you'll get one that's been driven somewhere between 30,000 and 40,000 miles. Yet, in one recent instance there was a listing of 1959 automobiles—approximately 1500

continued on next page



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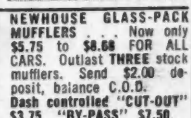
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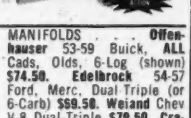
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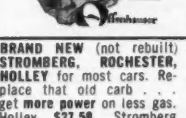
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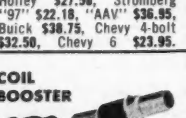
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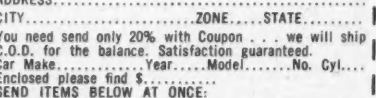
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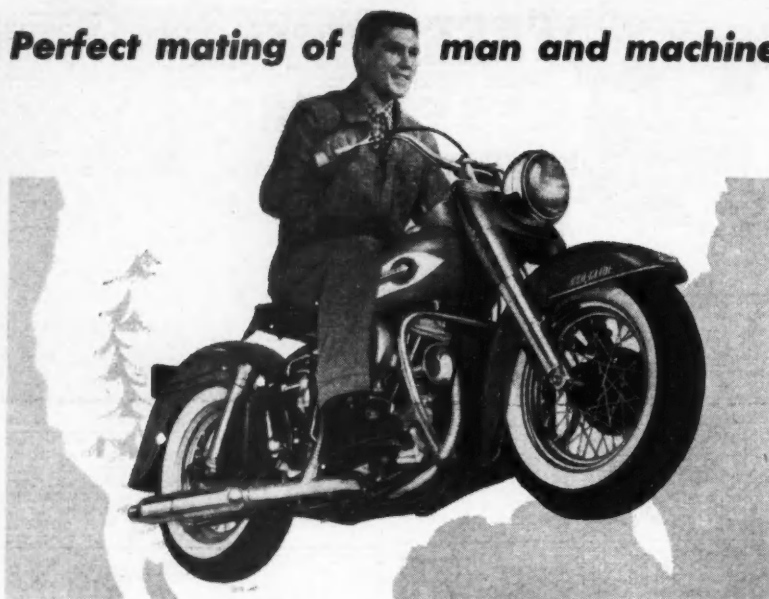
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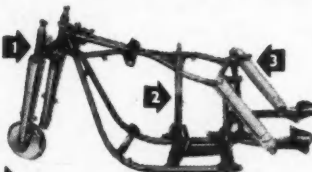
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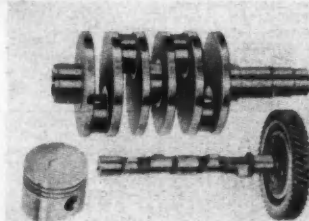
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of them, all rental cars located in Miami, Fla.—which were made available at reduced prices because the rental agencies had to decrease their fleets to compensate for the seasonal shift in the tourist business; all of these cars were low mileage vehicles, driven between 3000 and 5000 miles. So, there is a possibility of running across some excellent "buys" if it's price you're after. Such a service as "Best Car Buys" may be of great help in your search for a used car.

Buy a car from a private party?

There is no set rule that you can follow if you're considering buying a car from a private party, but it would only seem logical for you to pay less for a car purchased from an individual than from a reputable dealer, simply because if anything should go wrong from a mechanical standpoint, the dealer is there to stand behind the sale, while the individual has his money and would likely have no interest in your problems.

How about an imported car?

More and more the family who is considering a used car purchase is also considering an *imported* machine. Popularity of foreign cars continues to grow by leaps and bounds. There are many reasons for this, not the least of which is low maintenance and operating expenses. The resale value of the more popular imports, especially the Volkswagens, Renaults and Simcas, remains amazingly high. In addition to the 25 to 40 miles per gallon economy that you're always hearing about, tires have excellent longevity records. Engine overhaul, although needed perhaps more often than on American-built cars, costs less because of fewer parts (less cylinders, etc.).

What is the right price?

Now, to get down to the money end of this business of buying a used car, the best method of determining the "right price" for a specific model and make is first to study the classified section of your newspaper. Fluctuating prices show up there quicker than anywhere else. Nearly every salesman in the country has available to him the well-known Blue Book or Red Book, excellent guides for pricing used cars. And finally, you can survey the used car lots themselves to determine price and value of a particular brand and model. While there, of course, you'll also be able to determine something of the car's condition and make notes on what to look for in the next car like it that you see down the street.

No matter what you do, a used car is usually considered a better buy than a new one, simply because it's already depreciated and the money you're putting out is considerably less to begin with. There are plenty of people all over the country who never buy a new car; they pick up last year's model for that very reason. Some buy last year's model at the year's end and therefore do get it new, but to Neighbor John Doe down the street, it's not a new one. So, if you're out to impress him, pass up the used car market and stick to the new models... but if you're sincerely after your *best* buy, simply follow the suggestions laid down in this article and you'll come out ahead, especially as far as your pocketbook is concerned.

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Reports are based on actual tests by MOTOR TREND'S staff, and on observation and control of outside test facilities and laboratory analysis.

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Use Tests OF NEW PRODUCTS

Glide Control enables locking throttle for constant speed



ON RARE OCCASIONS, the MOTOR TREND product-testing staff gets a chance to test a product from the prototype to the production model. The changes are fascinating to watch even though our only concern is that the product must work. The Glide Control Corp.

of Los Angeles and Duro-Matic Products Co. of Culver City, Calif. spent months and an untold number of dollars perfecting a constant-speed control for automotive, truck and marine use. Our tests covered the automotive application, and while the prototype functioned well, the production model is simple, rugged, easily installed and reasonably priced.

The main function of the device is to eliminate a form of driving fatigue called "throttle foot." Operation is simple: The accelerator pedal is pressed until the desired speed is indicated on the speedometer. A tap of the left foot on the set button "locks" it in, and speed is maintained while the throttle foot is relieved of the necessity of holding the pedal in driving position. Another tap of the left foot on the control button, or pressing the brake pedal, instantly unlocks the Glide Control and the throttle snaps closed. For bursts of speed over the desired setting, normal foot pressure overrides the control, and removing the foot allows the speed to return to the pre-set selection.

Anyone slightly mechanically minded can install Glide Control in less than an hour with pliers, screwdriver, and a small hand drill.

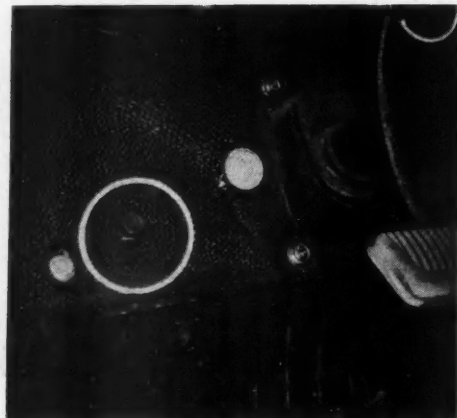
It's practically foolproof and the printed instructions are so clear that it is difficult to make a mistake.

Glide Control shows its best performance on those long stretches of level road where your foot begins to feel like it's glued to something, and any position is better than the one you are forced to take. With Glide Control locked in, the throttle foot is free, allowing change in leg position and a much more relaxed ride.

We pride ourselves on being able to maintain steady speeds, but there is still that slight up and down movement of the throttle pedal that not only increases driving tension, but increases fuel consumption as the carburetor butterfly valves are constantly opening and closing. We used the control successfully through several sleepy little towns plastered with signs stating that the signals were set for 28 miles per hour. While this sort of thing is not recommended for congested areas, we felt safe with our foot near the brake at all times. If one cares to take the trouble to have his speedometer calibrated at his nearest auto club, the Glide Control is wonderful for maintaining legal speed in posted areas, especially small towns where radar control has taken its toll of motorists who were just a few miles per hour over the posted limits.

National distribution of the product will make it available just about anywhere in the United States, Canada and Mexico. The price of \$29.50 does not include installation. For truck or marine applications consult your local parts jobber.

We take pleasure in awarding the MOTOR TREND Seal of Approval to Glide Control, a product that does its job well.



Use Tests OF NEW PRODUCTS

StrataFreeze refrigerator has no moving parts



SWEDE JENSEN, former oil man turned StrataFreeze manufacturer's representative in the six Western states, dropped in to see us with a combination sportsman's and family man's special—a permanently installed car refrigerator. The benefit of his unit, aside from the fact

that you don't have to carry ice in the car, is that his unit puts no parasitic load on the engine.

The StrataFreeze unit we tested was installed in a '56 Ford, located under the dash in the area where the center passenger would put his legs if it weren't for the drive-tunnel hump. A fuel line is tapped, directing gasoline through copper coils around the unit. Engine vacuum pulls the gasoline through, and it picks up heat from the freezer compartment on the way. The small amount of gasoline vapor is emptied into the intake manifold below the carburetor. It's a basic refrigeration principle that uses gasoline as the refrigerant.

Placing a thermometer inside the cooling unit, we read a temperature of 78° before starting the test. The engine was started and the compartment door closed with thermometer inside. After 10 minutes of idling the engine, we opened the door and read 30° on the thermometer. We also noticed that when the engine is turned off, the insulation on the box is adequate to hold the heat back at least during a lunch stop on the road.

StrataFreeze, made by Pol-Air, Inc., Morgan City, La., sells for \$49.50. It merits the MOTOR TREND Seal of Approval.

Hydraflex multiplies foot pressure for softer braking



HYDRAULIC LEVERAGE, the relation between the actuating or master cylinder and the slave cylinder, has been used for many years in automotive controls. Brakes in particular have made good use of this leverage, aided by the mechanical advantages of the length and travel of the pedal itself. With the increased pressures required to stop heavier cars with minimum brake lining areas, vacuum boosters have been added, not to increase hydraulic pressures, but to help the foot push the pedal harder.

It is quite a job to increase hydraulic leverage by replacing

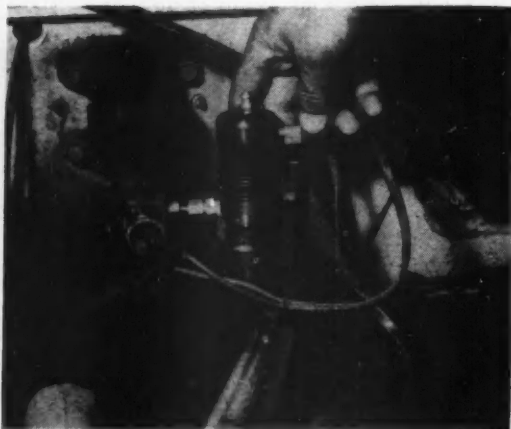
the master cylinder with one of smaller bore, but this leverage can be increased by adding another cylinder or hydraulic multiplier. Such a unit, known as Hydraflex, is currently available and will fit any car where it can be coupled between the output of the master cylinder and the brake lines.

MOTOR TREND's installation on a 1954 Mercury was simple because of the open firewall location of the master cylinder. There are two things to watch to insure perfect operation: joints must be fluid-tight and the system should be bled. We found that a quick-drying lacquer applied to the threads before installation produced the desired results in the joints. Hydraflex has a bleeder on top of the unit, but it is recommended that the entire system be bled well with a pressure-type bleeder to insure that all air bubbles are removed.

The test car was a pretty heavy vehicle and while there was good mechanical advantage on the brake pedal linkage, a lot of pressure was required for average braking. After installation of Hydraflex, light braking required the same pedal pressure and travel as before, but under average or hard braking, the hydraulic fluid bypassed into the multiplier increased the pressure on the wheel cylinders and reduced, by a wide margin, the foot pedal pressure. There was some slight gain in the distance the foot pedal traveled, but the overall effect was a softer touch with better braking. The test unit has been in continued daily use for the past three months with trouble-free operation.

These boosters are available by direct mail for \$19.95 from Hydraflex Manufacturing Corp., 4-20 47th Ave., Long Island City 1, N.Y. Any competent mechanic can make the installation on most cars in less than one hour.

This well-made product meets all the claims of the manufacturer and qualifies for the MOTOR TREND Seal of Approval.





SECONDS AFTER THE START OF ACCELERATION RUNS, THE WEBER VW STAYED WITH THE PORSCHE WHILE THE STOCK VW TRAILED.

Weber kit has hot cam, more displacement for VW



IT HAS BEEN A LONG TIME SINCE we "liberated" a Volkswagen from a Nazi colonel to join the triumphal entry of American troops into the city of Tunis in North Africa. As we recall, once the souvenir hunters had stripped it of the swastika flags and various other portable

items of the Nazi regime, we were happy to abandon it for our own American jeep when it finally caught up with us. Frankly, this VW was an underpowered little dog with which Hitler had fleeced the German people into additional financing of his hopeless war.

One of the first things the postwar factory manager of the rebuilt VW plant insisted on was more horsepower, and this started the VW toward a worldwide acceptance far beyond the wildest dreams of Adolph Hitler. Another horsepower increase in the 1954 models—when the engine capacity was raised from 1131cc to 1192cc—made the "people's car" even more desirable. But Americans, used to high-performance automobiles, looked about for even more horsepower.

The Weber Tool Co. of Los Angeles was one of those developers and manufacturers of performance-increasing equipment who knew the simple tricks by which American engines could be given more power without sacrificing reliability. They began experimenting with methods of cheaply increasing the displacement capacity of VW engines. The result of their efforts is a reasonably priced stroker kit that increases engine capacity to 1417cc or 86.5 cu. in. What this does for a stock VW is amazing. Looking at the engine dyno charts on the 1/2-inch stroker kit, we were impressed, but charts are dull and it is more fun to see what happens on the street in actual performance.

We were able to secure a well-broken-in 1959 model stock VW with 8000 miles on the odometer, new plugs, points and tune-up. Another member of the basic VW family—a 1957 Porsche 1600 normal, stock except for an Abarth muffler, with 28,000 miles and good plugs and points—was taken to complete the three-way acceleration run comparison. Our test car, a 1958 VW that had seen 9800 miles with the stroker kit, was equipped as follows: 1/2-inch balanced stroker crankshaft machined from billet, balanced 8 to 1 compression ratio pistons, balanced rods cut away to clear cam, and a street race cam relieved to clear the crankshaft. The manifold and single Solex carburetor were stock.

Porsche owners do not actually look down their noses at other cars but they have a sense of well-being in knowing that they drive a very fine car. They are especially tolerant of VWs, in a kind of recognition of the fact that they are so similar in engine and suspension. This tolerance could well develop into an open feud after what happened at Riverside Raceways dragstrip. There they were—

a stock VW, a proud Porsche, and the VW stroker, revving their engines for the signal to go. The first 60 feet were a complete surprise, for while the stock VW was hardly off the line, the stroker and the Porsche were practically neck and neck. From there on it was not much of a contest as the higher rpms possible with the Porsche began to increase the distance between it and the stroker, but not as fast as one might think.

For Porsche owners who might be apprehensive, here are the figures, remembering, of course, that there are additional Weber options available that include a dual-carburetor manifold and one that accommodates a Judson blower.

STANDING START ACCELERATION

	0-45	0-60	1/4-mile
Stock VW	18.2	31.4	24.9 and 51 mph
Stroker VW	12.7	24.6	20.6 and 58 mph
Porsche 1600	8.7	14.8	19.5 and 70 mph

The actual drag contest was held with each car carrying only the driver; the Porsche was towing fifth wheel instrumentation during these runs to record speed and elapsed time. For the timed tests of the VWs, they were both handicapped, through necessity, with carrying an additional passenger.

The stock VW has been recording 27 mpg around the city, mostly freeway driving, and the stroker gets 24 mpg under much the same conditions. Acceleration tests and the other hard driving on the timed tests really consume the fuel. Usual procedure is to top off the tanks before and after the runs at a Flying A station 12 miles from the course. As we said, tests consume fuel and these gas station boys really like to see us come in. However, we were a little embarrassed when our stroker VW required only 54¢ worth of fuel to top off after the runs.

The cost of the 1/2-inch stroker kit tested is \$237.50 complete, labor extra. This includes everything from piston rings to rod inserts, but you must turn in your connecting rods and camshaft as this price is on an exchange basis for these items. For those who desire a milder modification, Weber offers a 1/4-inch stroker that increases displacement to 79 cu. in. for \$199.50, with the same items supplied on an exchange basis as the 1/2-inch kit.

So remember, if you want more go from your VW and would like to do a little better job of getting away from signal lights or accelerating into high-speed freeway traffic with the big Detroit models, contact the Weber Tool Co., 2990 Ramona Blvd., Los Angeles 33.

Weber's VW stroker kit merits the MOTOR TREND Seal of Approval.

Use Tests

D-A Gear Lube tops for competition

SOME MONTHS AGO (Jan. '59) while testing D-A Speed Sport Oil, we began tests on a companion product, D-A Speed Sport Gear Lube. This lubricant is designed primarily for the high gear speeds and high temperatures of competition gearboxes.

Most lubricants used in racing are changed frequently, but for test purposes we continued

to use the same gearboxful of the test lube for three race weekends stretched over a four-month period without draining.

The MOTOR TREND test car was a Formula III racing machine with a competition Burman motorcycle gearbox. These are constant-mesh, progressive, ratchet-shift mechanisms, with semi-liquid grease recommended as the lubricant.

Under racing conditions, the high speed of the spinning gears quickly generates enough heat to whip the grease into a real fluid state. Until this happens, there is a lot of drag from the heavy material, and when cold it does not penetrate well into the bronze bushings commonly used in gearboxes of this type.



Most of the drivers of this class car solve drag and lube problems by using 30 or 40 weight engine oil, hoping it won't thin out too much during the race to squirt through the seals or out the vent. Draining after a race is hardly necessary because so much oil has to be added to make up this loss that it is always fresh.

Now Formula III racing is hardly on a par with Indianapolis or other championship competition, but it probably has more temperamental, overstressed cars competing than any other class. This lubricant has been tested in Indianapolis cars and proof of its success is on the records, with no gearbox

failures where this oil was used. Knowing the characteristics of our particular Burman gearbox and how it acted with various types of lubricants, we could find out in a very short time if D-A Speed Sport Gear Lube offered any advantages.

The lubricant pours well when cold, eliminating the need for pressure guns when filling. Under the high gear speed and higher pressures of the gear teeth on each other, the 90 weight oil maintained enough viscosity to stay in the box, with practically no maindrive seal leakage and none squirting out the breather because of frothing. We ran this same oil for three race weekends over a four-month period without the need for topping up and without draining.

Our initial success with this lubricant prompted several other race car owners to try it in both the Burman-type boxes and regular four-speed sportscar close-ratio transmissions used for racing. As yet they have reported nothing but enthusiasm for the product.

From our personal experience under the described conditions, the lubricant has done a good job. Routine inspection teardown of this gearbox indicates that this lubricant has been doing a better job than either the lightweight engine oil or the recommended semi-liquid grease.

D-A Speed Sport Gear Lube, a product of D-A Lubricant Co., Indianapolis, Ind., is available in an increasing number of parts houses and speed shops throughout the country in gallons only.

This product, which deserves the MOTOR TREND Seal of Approval, is from a manufacturer who is no stranger to the problems of high-speed lubrication.

Mallory electric conversion gives instant timing advance

IT IS WITH A BIT OF A SMILE that MOTOR TREND use-tests Mallory's new electric dual-point conversion, since many of us bought at least one of the older units for our personal automobiles. Nonetheless, since this is an improved version, we installed the new unit on the DeSoto engine in our Kai-Soto hybrid test car.

The principle upon which both the former and the improved Mallory conversions operate is too basic to be disputed. During every 1/8 turn of the eight-lobe half-speed distributor shaft the points must fully open and fully close, all in 45 degrees of rotation. This period can be extended, however, if two sets

of contact points are used instead of one, with the secondary set working somewhat behind the primary set. Thus, when the primary set starts to open, the secondary set is still closed; then both are open together; finally, the primary set closes with the secondary set closing behind it. The 45 degrees can



be stretched out to 48 or 50 degrees, increasing dwell.

Ignition timing advance curve is also the function of engine vacuum as it affects the points. Normally, there is a spark advance vacuum diaphragm assembly that literally rotates the mounting plate assembly further back in its arc. It works; sometimes vaguely, but always with a certain amount of plate wobble. Mallory's new system anchors the plate, and changes spark timing by cutting the secondary breaker set in and out. The diaphragm assembly is replaced by a vacuum-operated on-off switch.

In starting the engine, when there is no vacuum, the spring-loaded switch is closed, firing both sets of points and giving full coil saturation. At cruising speed, high engine vacuum overcomes spring pressure to open

the switch; at low load only one set of breaker points is operative. But while accelerating and at high loading—when engine vacuum is low—the switch closes the circuit again. Both primary and secondary points work, again allowing full saturation, instantaneously altering the advance curve.

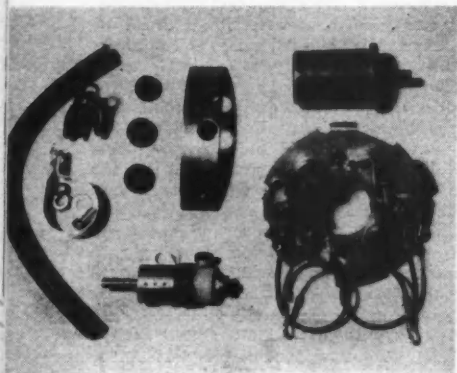
In fact, there is no advance curve; the electric vacuum control produces full advance instantaneously when it's needed. Just as important, the stationary mounting plate eliminates wobble, a cause of erratic ignition.

Why doesn't the manufacturer do this in the first place? Probably because of cost. Ever think about what it means to a manufacturer to save 50¢ on every car, when he makes five or 10 million units a year? Besides, his system works in most applications for most people—the man who demands something special has to be special enough to go out and buy it.

Anyone who's played with engines knows that there is always a weakest link to limit revs and power. It may be carburetion, or cam grind, or what-have-you. After the Mallory dual-point electric conversion, you can be sure it won't be your ignition.

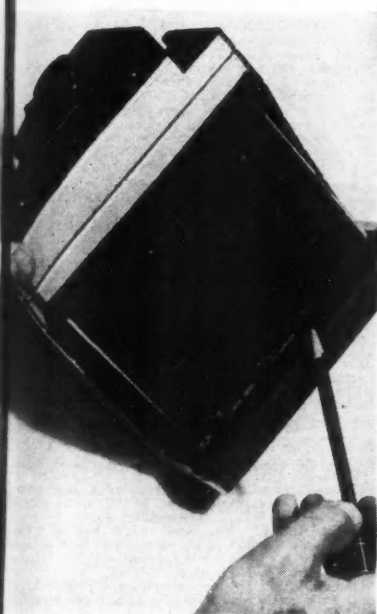
Unfortunately, at this time the new units are available only for Chrysler Corp. products—Chrysler, DeSoto, Dodge and Plymouth—at \$11.50, which includes points and condenser.

The Mallory Electric dual-point conversion with vacuum switch is awarded MOTOR TREND's Seal of Approval.



Use Tests

THE ELECTRIC AUTO-LITE CO. of Toledo, Ohio, is currently producing an automotive lead-acid battery that employs a new method of manufacture. About 60 per cent of battery failures are mechanical, within the battery itself. This does not mean that batteries shake themselves to pieces when exposed to the underhood vibrations of engine and road shocks, but rather that tiny plate fractures, connector ruptures, top seal leaks and case cracks can start an otherwise sound and well



maintained battery into electro-chemical failures that reduce starting voltages and shorten life.

In an effort to minimize, and if possible, eliminate any possible mechanical failure that would shorten the life of a battery, Electric Auto-Lite designed the Prest-O-Lite Vibration-Proof Hi-Level unit known as VP-MS11.

Presto-O-Lite now offers Vibration-Proof Battery

In effect, the battery is built upside down. The plates, separators, connectors and top are bonded into one unit. Moulded into the outer case are lower plate supports and assembly tongues that fit into corresponding grooves in the plate-top unit. Vibration-proof resin is laid into these matching tongue and grooves and the outer case is lowered onto the plate assembly. The entire unit is then sealed into a leak- and vibration-proof unit by electronically curing the resin seals. Once assembled, the battery cannot be taken apart, but it can't be shaken apart either, and it is backed up by a 50-month pro-rated guarantee to that effect.

MOTOR TREND did not test these batteries for 50 months, but we did run them in cars with high engine compartment heat and vibration that had cracked cases and developed seal leaks in ordinary batteries dur-



ing the hot summer months. The test batteries still look as they did the day installed, despite the high heat of last summer's driving and the near-zero temperatures encountered in the high country this past winter.

Also observed were the manufacturer's vibration tests, where batteries were shaken at high frequency for 1000 hours. This torture chamber has been able to cut the starting voltage of most 12-volt automotive batteries in half after 50 hours of shaking, while the Vibration-Proof Prest-O-Lite maintained its full 12 volts for nearly 1000 hours.

This battery sells for \$50 with a fair margin of profit for the dealer that allows him to make some good trade-in offers on your old battery. There are Prest-O-Lite battery dealers throughout the world, all of whom honor the guarantee, regardless of where the product was purchased.

The Vibration-Proof Prest-O-Lite battery merits the MOTOR TREND Seal of Approval.

LOOK FOR THESE PRODUCT TESTS SOON

Products now undergoing test and which will be reported on in future issues of MOTOR TREND include the following:

Bruce Recap Tires for Highway and Competition
Stewart-Warner's New Fuel Pump
Kal Tunemaster Engine Tuning Kit

(In the Use Test report in the June issue, awarding the MOTOR TREND Seal of Approval to AMT Corp., 200 Briggs Bldg., Birmingham, Mich., for their quick-on electric Windo-Lift, the price given was incorrect. The nationally advertised list price is \$49.95 per set.)

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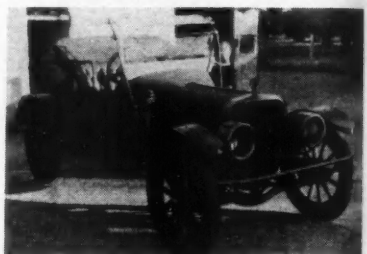
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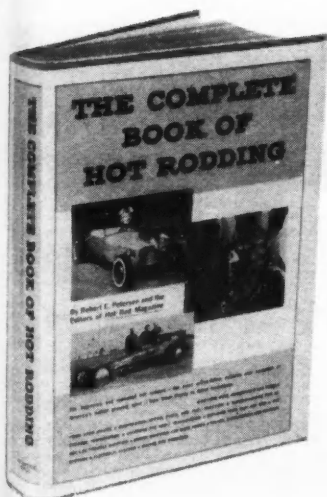
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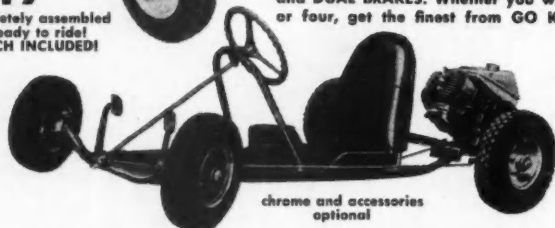
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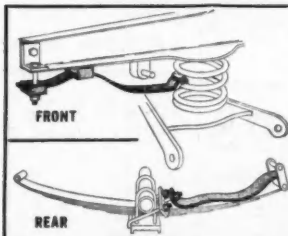
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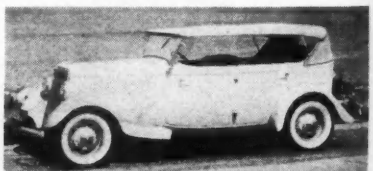
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Cadillac of its day. \$900. Bob Koch, 4257 Los Gatos
Hwy., Santa Cruz, Calif.

'34 FORD phaeton. Sandalwood tan; completely re-
built, modified but retains stock appearance. Ww's.



2 new extra tires, hydraulic brakes. Drive anywhere.
Best offer over \$1000. J. L. White, 907 Roosevelt,
Monterey, Calif.

'37 CORD conv. phaeton in mint cond. '46 Lincoln
Continental conv.—like new. '59 Jaguar XK-150.
'59 Jaguar XK-150S. Want Duesenberg, Cords,
classics? H. Y. Concannon, 4380 N. Keystone,
Indianapolis, Ind.

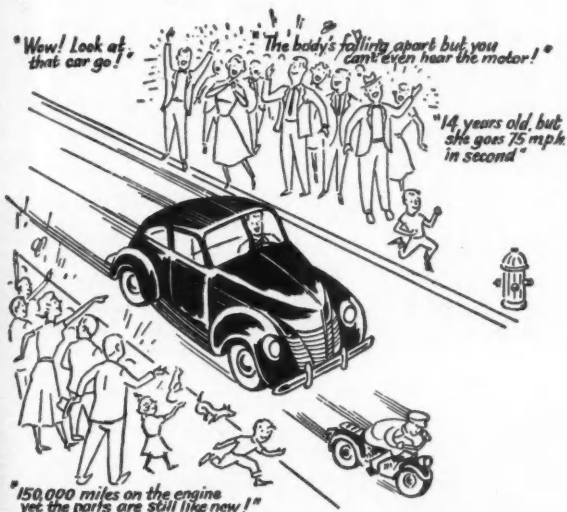
'29 MODEL A rdstr. All orig., fair to good cond.
Driven nearly every day since '29. Drive it away
for best offer over \$500. Paul Beving, 618 4th
Ave., Sibley, Iowa.

'47 CADILLAC Derham custom limousine. New
leather top, nearly-new ww's, 2 radios & electric
windows. Orig. cost \$17,000. Leonard W. Gross,
Gwynedd, Pa. Phone OXbow 9-9050.

'56 MERCEDES-BENZ 300-SL rdstr. Red, with
white leather. Engine perf., under 20,000 mi.; no
accidents, no racing. Return June from Germany.
\$5000—cheapest yet. Armin Melior, Lucasville,
Ohio. Phone BL 9-5853.

continued

Here's How a \$4.95 Magna-Power Saves You up to \$200...or your Money Back!



Does YOUR car give you the pep and power it had when new?

- if not you need a Magna-Power! With a Magna-Power you can save 80% of your engine repair bills and have a "new" car longer.
- it takes only one minute to install — at a cost of less than .005¢ per mile (five/thousandths of a cent!).
- a \$4.95 investment in a Magna-Power will return itself IN FULL every time you change your oil — and keep on doing so for years, saving you hundreds of dollars in formerly unnecessary oil changes, engine repairs, etc.

As one Magna-Power fan wrote: "There is no excuse whatever for a man to change oil every 2000 miles if he knows there is such a thing as a Magna-Power antacid neutralizing drain plug." And, of course, that fan's 13-year-old Chevy is his pride and joy — and is never in the repair shop — except for minor tune-ups, lube jobs, etc., then presto! On one oil change the entire \$4.95 saved — and his engine protected against acid corrosion — runs like a clock — quiet as a watch — "powerful as a B52" — a car with an engine that will not let you down — that actually increases in power, pep, speed and performance the older it gets. More automotive engineers, oil chemists and mechanical engineers have installed Magna-Powers on their engines than any other proportionate group of our population. And thousands of Magna-Powers have been bought by critical people in the past 9 years — people who save hundreds of thousands yearly — and more important, get for themselves increased trade-in allowances amounting to hundreds of dollars for turning in mechanically perfect cars.

HERE'S WHAT'S IN IT FOR YOU

1. OIL

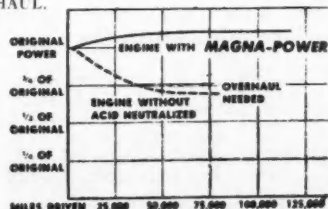
Your oil will last longer! You can not only change less often but also get more miles per quart in between. See for yourself! Put samples of your oil in 2 Pyrex baking cups and heat to 300°F in a GAS FIRED oven — one with the Magna-Power and one without. After 2 hours, shut it off and allow to cool for several hours. Start up the oven again and repeat the whole thing. Keep repeating until 45 or 50 hours of high temperature have been run. (High priced oils may need longer.) Examine the oils and put a drop of each on a white blotter for comparison. The spots below show the vast difference in oil breakdown.



Two oil spots — one with Magna-Power, one without! These came from the same can! — a well known, nationally available, top grade brand. See text for test conditions. This is the same thing that happens in your engine. The oil warms up in contact with hot blow-by gases — the moisture condenses in the oil, makes acids and breaks down even the best oils.

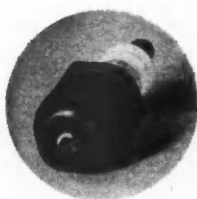
2. POWER

Engines maintain full power (or actually increase) — for amazingly long mileages. Many have 180,000 to 200,000 miles and more — WITHOUT ANY MAJOR OVERHAUL.



3. IGNITION

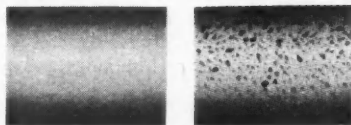
Actual experience shows that your spark plugs should last 2 or 3 times as long as now when they are not fouled by the filth and goo that normally collects in your oil — dissolved in it, so the filter cannot remove it.



The plug shown is 1 of 8 with 61,810 miles on them and still showing nearly new efficiency. One engine has gone 188,438 miles so far on 2 sets of plugs — it is still in top condition!

4. WEAR

Measurements show reductions with Magna-Power of 3 to 1 or better under the same conditions.



The bearing at left above is from an engine with Magna-Power after 112,000 miles in 11 years. It is still good for many more years of service and 4 times the miles. At right is one from a similar unprotected engine after 63,000 miles; IT IS WORN OUT!

WHAT IS MAGNA-POWER?

Magna-Power is the new direct way to kill acid. Acid is the real cause of engine wear. The oil companies are spending millions to add acid neutralizers to their oils but these are not permanent.

WHERE DOES THE ACID COME FROM?

Gasoline has sulphur in it. When sulphur burns it makes sulphuric acid right inside your engine. Sulphuric acid eats metal. It destroys detergents and spawns more acid. Little by little the engine is eaten away. Acid is one of nature's methods of reducing metals to their original primitive state.

HOW TO NEUTRALIZE THIS ACID

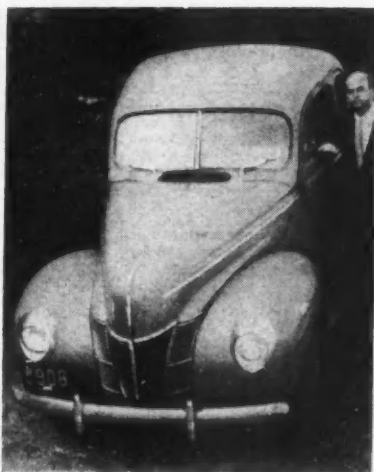
The easiest and surest way is to use a solid chemical neutralizer attached to your oil pan drain plug. The Magna-Power is a drain plug with a rod of special alkaline metal alloy. Acids much prefer this naturally alkaline alloy to the other metals in the engine; but in eating it these corrosive acids are destroyed. Yet there is enough alloy to last 100,000 miles.

GET A MAGNA-POWER TODAY — NOT A NEW ENGINE TOMORROW

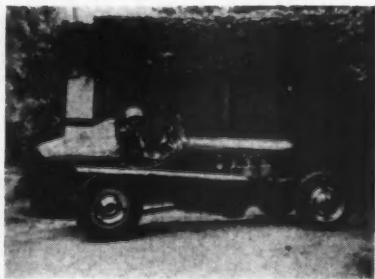
Turn the page and read the amazing stories of Magna-Power!



Fabulous '51 Ford is shown here with owner Lucius Kingman of McLean, Va. Purchased new by Kingman—Magna-Power was installed in it after 15,000 miles—the car now registers over 100,000 miles. "It has more power now than when it was new," says Kingman. "The spark plugs last about 40,000 miles! Amazingly, it burns almost no oil—maybe a quart every 1,500 miles!"



Original test car still performs with amazing power and smoothness—with 191,247 miles on it! Johns (above) had the pistons removed for inspection when the car registered 116,942 miles and there was practically no wear! Magna-Power helps any car—old or new—stay young, healthy and more powerful longer!



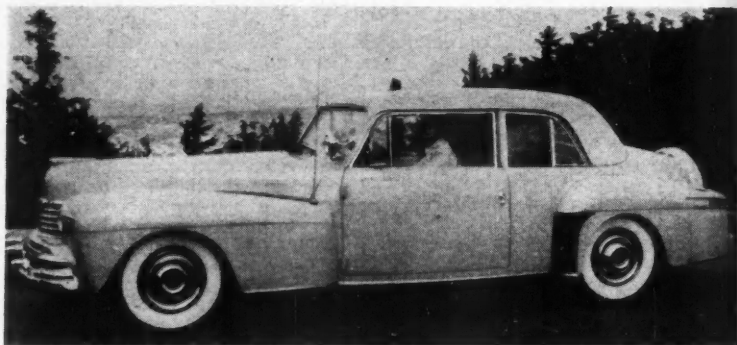
Pikes Peak Racer built by George Balster of Lincoln, Neb., contains a 3-carb, full-race '50 Studebaker engine. George credits Magna-Power with providing "more power, faster starting and a remarkable elimination of wear on all moving parts." Also Magna-Powered is George's family car, a '51 Chev. Sedan with 78,000 miles on it!

The Story of Magna-Power

—the amazing magnesium-alloy accessory that actually triples the life of car engines

The principle of Magna-Power was discovered by accident!

During the hectic early years of World War II, a brilliant young M.I.T. graduate named Win Johns was doing vital engine testing work for the U. S. Navy. One of the rigorous tests was designed to discover how long an engine could be run at 250° F. before it burned out. One engine was set up and run at 1800 for 50 hrs. But—at the end of that time, the engine showed no sign of burning out. Johns and his staff tore the engine down and discovered, to their amazement, that there was little or no wear!



Continental Classic is kept in like-new condition by owner C. F. Childers of Portland, Ore. Since installing a Magna-Power in this '48 Cont., Childers says, "I can notice an increase of power. It runs smoother than a new car. The plugs stay perfectly clean. And even after being garaged for several weeks, I get trouble-free starting."

Discovers Principle

Johns reasoned that this test engine somehow was not being subjected to the factors that cause wear under normal operating conditions. It was found that since this engine was operating *above* the dew point of the blow-by gases, no moisture was getting into the oil, as is common with car engines. Johns knew that sulphur present in all grades of gasoline was (after combustion) combining with moisture in car engine crankcases and forming sulphuric acid. It is this sulphuric acid that attacks the vital parts of engines, aids the formation of damaging sludges, gums and resins and causes 90% of all engine wear. Johns then reasoned that if there were some way to destroy the acid that forms in the crankcase of car engines, he would be able to stop the major cause of engine wear and power fade.

Develops Magna-Power

Putting this principle to work, Johns experimented by putting various alloys of magnesium in engine oil to help neutralize and destroy the corrosive acids as they are formed. After many months he developed a special magnesium alloy that was perfect for the job.

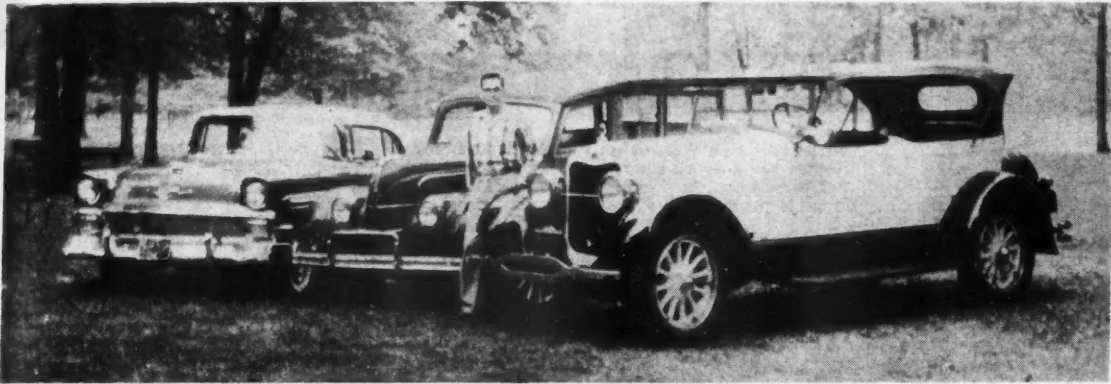
Then came months and months of testing to prove beyond a shadow of a doubt that his discovery actually did stop the major cause of engine wear. Johns equipped a 1940 Ford coupe with his special magnesium alloy by attaching a bar of the metal to his crankcase drain plug. He also attached a tiny Alnico magnet to the magnesium to remove any iron or steel filings in the oil. The car was then driven in normal use—stop and go, short trips and long trips. After the Ford had been driven 115,000 miles *without* a single major overhaul or repair, the pistons were removed for inspection. Everyone—including the inventor himself—was astonished!

There were practically no signs of wear! Some of the original machining marks were still visible on the rings and pistons. The engine was put back together again.

Today Johns' 1940 Ford is still being driven every day. It now has 191,247 miles on it! Imagine! 191,247 miles! It still retains the pep and power it had the day it came off the assembly line!

Many thousands of miles of controlled tests were conducted on other cars and trucks before Johns put Magna-Power on the market. In one notable experiment,

JOHNS RESEARCH LABORATORIES, DEPT. M-7, MIDDLESEX, N. J.



Magna-Powered trio, owned by the Stout brothers, Arthur and Robert, of Plainfield, N.J., is made up of '56 Chev Bel-Aire Conv., '38 Ford Station Wagon and '26 Lincoln Phaeton (Brunn Body). Bob (shown above) and Art are firm boosters of Magna-Power. "All of our cars have more pep and power due to the Magna-Powers

in them," Art states. "Our 'baby,' the prize-winning Lincoln, doesn't burn any oil at all. And the oil stays perfectly clean between changes. I'd say a Magna-Power is definitely worth much more than the price you pay for it!" Not shown above is Art's family car, a '54 Nash Rambler—also Magna-Powered!

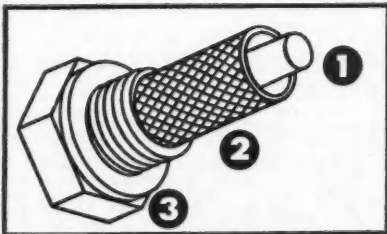
the Farmers & Consumers Dairy Co. of Morristown, N.J., put Magna-Power in half of their 22 door-to-door delivery trucks. After being driven many thousands of miles, the engines without Magna-Power showed $5\frac{1}{2}$ times more wear than that of the engines with Magna-Power.

How Magna-Power Works

Just exactly what is Magna-Power—how does it work? Actually, Magna-Power is a very simple little device. It is a carefully machined bar of a special magnesium-alloy metal. It is attached to the crankcase drain plug (the correct size for your car). It cannot come in contact with moving parts. But it is always in direct contact with your engine oil. Here are the three main things Magna-Power does: 1. effectively neutralizes (destroys) corrosive acids in your oil; 2. greatly reduces the formation of damaging sludges, gums, and resins; 3. destroys the cause of deposits on spark plugs . . . deposits that rob by pre-ignition and internal shorting.

Magna-Power's Benefits

The direct benefits Magna-Power can give your car engine are these: It reduces wear on vital moving parts up to 80%; it increases engine power by eliminating sludge and resin formations; it slows the deposit build-up on spark plugs—promotes far longer plug life; it allows you to use your oil efficiently for over 3,000 miles before a change is necessary.



1. Powerful Alnico magnet that removes damaging iron and steel filings from the oil.
2. Special magnesium alloy metal that constantly neutralizes and destroys all corrosive acid in the oil as it forms.
3. Crankcase drain plug—the correct size for your car.

Why Magna-Power is not in new cars

A new car (or a rebuilt one) has to go through a break-in period. The new car engine must actually "wear in"—loosen up for maximum efficiency. Because Magna-Power cuts engine wear by 80%, new car engines would not break in correctly until about 25,000 miles! Magna-Power should be installed in new cars at the end of the normal break-in period when you change oil. Cars that are already broken in—

whether your have 5,000, 20,000, 50,000 or 75,000 miles on your car—can be greatly benefited by Magna-Power immediately!

30-DAY FREE TRIAL

We are so confident of Magna-Power's benefits that we are offering it to car owners on a free trial basis. You merely mail in the coupon below. We send you your Magna-Power—already attached to the correct crankcase drain plug for your car. It's easy to install. You install it and start enjoying the benefits of it. At the end of thirty days you pay \$4.95 (plus 25c postage and handling). If you are not entirely satisfied, you may return the Magna-Power at that time—and it has cost you *nothing!* (But—satisfaction is so great that our percentage of returns is only a fraction of one per cent).

Available for all U.S. and European cars, trucks, and buses; marine, outboard, lawn mower and many other engines—if we don't have it we'll make it!

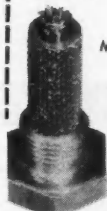
Canadian orders filled from Toronto—no duty, no red tape . . . \$4.95 each Canadian Dollars. Send to Magna-Power Sales Co., 190 Brookside Ave., Toronto 9, Ont.

The Original Tested and Proved
Magna-Power®

Shown below—full size—is the $\frac{1}{2}$ "—20 Magna Power for Chevrolet, Pontiac and Oldsmobile.

(Use Margin If Needed)

JOHNS RESEARCH LABORATORIES
DEPT. M-7, MIDDLESEX, N. J.



My car is a _____ (make) _____ (year)

\$4.95

PAT.
APP. FOR

Send me a Magna-Power for my car on your 30-day FREE TRIAL. If I like Magna-Power, I will promptly send \$4.95 (plus 25c postage and handling). Otherwise I will return Magna-Power and owe you nothing!

SAVE—Send \$4.95 with order and we pay postage—handling—Money back guarantee.

Magna-Power, with a powerful Alnico magnet attached, pulls iron and steel abrasives right out of the oil pan—gives your engine added protection.

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78 MOTOR TREND/JULY 1959

Sell 'n' Swap

continued

'53 SUNBEAM-TALBOT conv. New gold paint, new white top; red leather interior. New brakes, battery & tires. R & h, tachometer. Never raced. Best offer over \$900. Don Davis, 390 Water, Douglas, Mich.

'28 PONTIAC double-headed 6 cpe. Exc. cond. drive anywhere. Extra transmission & parts, \$300 or best offer. Vinton E. Phelps, 1880 S. 12th St., Salem, Ore.

ROLLS-ROYCE—'26 chassis, '39 Paris body. Body & engine good; needs wood restoring, uph., paint. Best offer over \$500. Car available New York City. R. P. Everett, 2933 Chandler Rd., Omaha, Neb.

'34 AUBURN supercharged 2-seat speedster. Exc. running cond.; poor top & paint. Definite sale for best offer, f.o.b. French port. J. L. Du Montant, Fougères par Eymoutiers, Haute Vienne, France.

MERCEDES-BENZ 540-K 2-pass. conv. Black—a true classic in good cond. Stored in Sweden. Best offer takes. P. Osterling, MS Portland, Grace & Co., 2 Pine St., San Francisco, Calif.

COLLECTION—Antique & Classic autos, tires, parts & equipment, trucks, carriages, sleighs, boats, marine & stationary engines, literature. List. J. F. Goodman, Brimmer St., Boston 8, Mass. Phone LA 3-6679.

'35 PIERCE-ARROW V-12 4-dr. sed. 6 wire wheels. Needs re-upholstering—car sat outside for 2 yrs.



\$400. Frank Oomen, 223 Gidding's Pl., St. Louis, Mich.

'13 BUICK runabout. Maroon & black, mint cond.; drive anywhere. For info write Box 24, West Hempstead, N.Y.

'15 OVERLAND Model 80 speedster, with custom body by Silver. A-1 cond.; drive anywhere. For info write Box 24, West Hempstead, N.Y.

'13 CADILLAC touring. Complete; chassis & engine restored to mint cond. Body to be restored. For info write Box 24, West Hempstead, N.Y.

'48 LINCOLN CONTINENTAL cpe. with '52 Cadillac conversion. Dual carburetors, dual exhaust, new U.S. Royal Master ww's. Mint cond. \$2100. J. J. McCann, 894 Glenbrook Ave., Bryn Mawr, Pa. Phones LA 5-2861, LA 5-7493.

'48 CADILLAC 75. Midnight blue, concours cond.; chauffeur-cared-for. Potential show winner; can't be sold from new. 27,000 actual mi. Best offer around \$850. D. W. Bersch, 2139 N. 20th St., Sheboygan, Wis.

'37 GRAHAM bus. cpe., with supercharger & o.d. Good cond.; o'hailed year ago, new paint last summer. \$1000 or best offer. Ben Turgeon, Star Route Academy, S.D.

'66 PACKARD Caribbean. Exc. orig. cond.—white leather top, beautiful solid black finish. Extra wheels, tires. Rare, wonderful car. \$2100. R. E. Grant, 44 Florence Pl., Pittsburgh 28, Pa. Phone LOKUS 3-2659.

'50 LINCOLN Cosmopolitan limousine—White House presidential special. Gold-plated interior trim, 29,000 mi. Cost around \$30,000—a rare collector's item in perf. cond. \$3750 firm. Ernest Euerdt, 1296 Fairview Rd. NE, Atlanta 6, Ga. Phone DRAKE 3-9868.

'29 BUICK in very good cond. New uph., good tires. \$300 or best offer. Glenn Hart, R.D. 1, Lisbon, Ohio.

'34 FORD 5-pass. 2-dr. sed. Exceptional car—looks like new (orig. paint), exc. shape. 63,700 mi.—car is just broken in! Best offer. C. Christophel, 1814 Andina Ave., Cincinnati 37, Ohio.

'36 CORD 5-pass. phaeton. Mech. perf., all stock Cord. Needs top, front uph. & minor body work. Priced for quick sale—\$1250. Richard Smith, 149 Norwood Ave., Long Branch, N.J. Phone CAPital 2-6647.

'28 ROLLS-ROYCE Phantom I conv. sed. by Murphy. New interior & top. Spare Phantom I engine included. Drive it home, or delivered free in Calif. \$2250. Don Price, Prin., Monte Vista Christian School, Watsonville, Calif.

'55 KAISER Manhattan, supercharged. White with tan top, ww's. Perf. in every respect. Also '54 Kaiser—black with ww's. Both for best offer—\$1000. Wingate Shop, Rt. #4, Box 264, Troy, Ala.

'28 DODGE Straight 8 4-dr. sed. Engine completely rebuilt; needs paint & uph. \$200. C. T. Maxfield, 322 E. Withrow Ave., Oxford, Ohio.

'58 MERCEDES-BENZ 219 sed. Gray, with Tex leather. Reclining seats, foglights, chrome wheel fairings, washer, extra heater-blower, channel Blaupunkt radio, maintenance book. \$3500. Beckwith Pearson, 517 Judith-Ann Pl., East St. Louis, Ill.

'28 BUICK Model 28-58 5-pass. spt. cpe. All orig. & in exc. cond. Wire wheels & white wheel covers on spares. Delmar L. Hansen, Rt. 2, Cheboygan, Mich. Phone Madison 7-4819.

continued

Make sure your ignition system is

WIRED FOR POWER

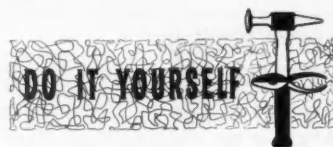


Photo Story by V. Lee Oertle

WITHOUT THE IGNITION SYSTEM on your car functioning properly, the engine can't deliver all the horsepower you expect from it. Heat, oil, moisture, rubbing against other parts—all these things help break down the ignition wires leading from distributor to spark plugs, from coil to distributor. Faulty ignition wires may cause these common symptoms: hard starting, engine miss, flat spots under load, and a big power loss. Cracked or kinked wiring may lead to a complete short-circuit, especially in wet weather, which could kill your engine at a critical moment. Resistors should be replaced at intervals because with age they tend to increase resistance, up to 35 per cent.

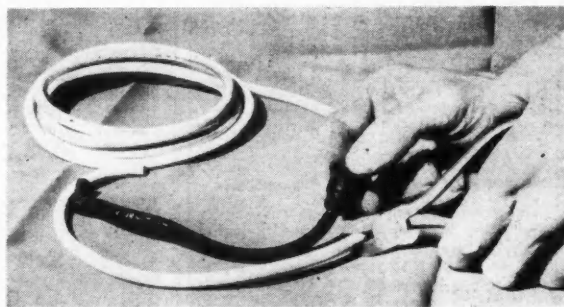
Purchase ignition wiring for quality, not for color to match your car trim! An added convenience at slight extra cost are snap-on-type removable spark plug terminals, such as the Rajah, which not only

assure a better contact, but facilitate easy removal of plugs for periodic cleaning. Be sure to solder distributor clips to ends of ignition wires with resin-core solder.

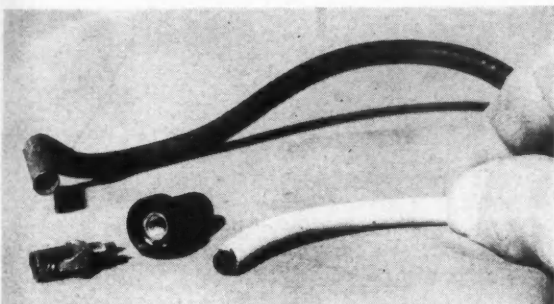
Remove and replace one plug wire at a time to avoid a foul-up of the engine firing order by accident. As each wire is removed from the distributor cap, clean the socket in the cap with a brass shotgun brush, or similar metal brush. Carbon trails and traces of brass from burned rotor must be completely erased or arcing is likely. Even small carbon trails induce current loss that builds up, begins arcing, eventually may crack the cap and cause needless lost power. Replace distributor wires firmly in their respective sockets. Loose wires contribute to the start of these carbon trails and arcing. A final protective coating of ignition spray will increase life of wires and terminals, lessen chance of water short-out.



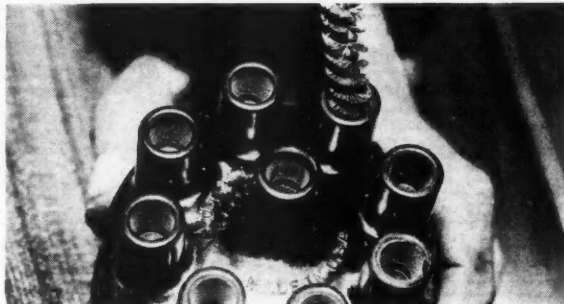
You need new spark plug terminals, rubber caps, clips and wire. Quality wire lasts longer; can be bought pre-cut to fit engine.



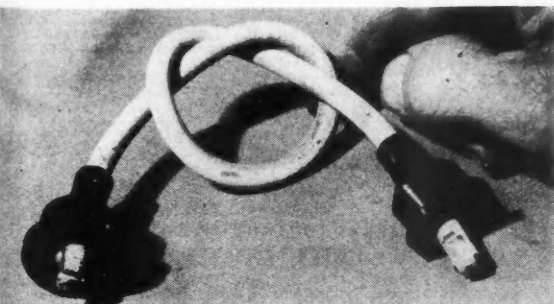
Unless familiar with firing order, remove one wire at a time and cut to size. Cut slightly longer to avoid kinks and obstructions.



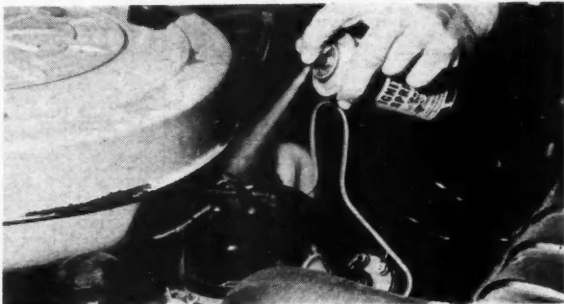
Rajah terminals are easy to use. Strip insulation back 3/8-in., clip on terminal socket, screw terminal insert against bare end.



Before inserting new wires, clean sockets of cap with wire brush. Replace wires tightly to prevent arcing. Clean coil socket, too.



New coil lead consists of two clips and two rubber protector caps. Loop in wire breaks up electrical field that causes radio static.



Now that insulation is good, keep it that way. Spray-coating over plugs, coil wire and distributor cap lengthens life of material.

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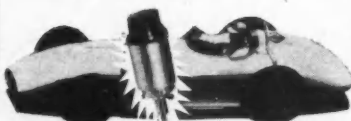
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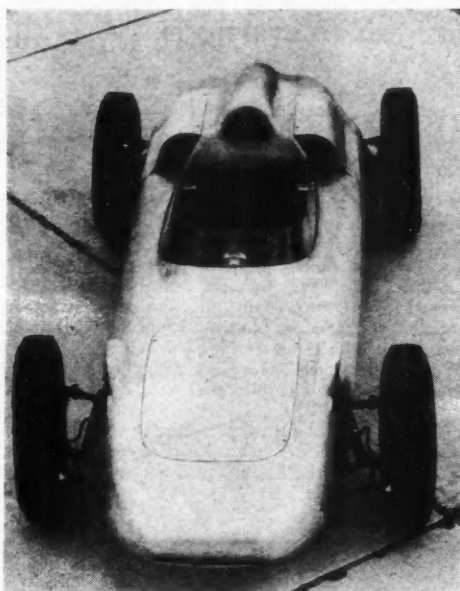
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The new Porsche Formula II car shows the same simplicity that makes other Porsches winners, plus a new streamlined single-seater body. Components are similar to RSK.



Designed by Jose Serra of Barcelona, swiftly rising Spanish designer, the new Pegaso is designed for the 170-mph speed ranges. Displacement has been upped to 4.5 liters (was 3.9 liters, 237 cu. ins.); the brake drums have been widened for more rubbing inches.

Sell 'n' Swap

continued from page 78

'18 PACKARD Twin 6 Cloverleaf rdstr. (rare close-coupled rdstr. body). Mostly restored. Sell for only \$1350. Details & pix on request. Ronald T. Hall, Box 78, R.D. #1, Sharon Springs, N.Y.

'23 MODEL T rdstr., restored & in good cond. Wheels garnished. Pix on request. \$995. Also have trailer for hauling Model T. Frank J. Hecht, Tilden, Neb.

PIRSCH FIRE ENGINE in beautiful shape, completely equipped. Small pump; put out your own fires. Bruce S. Lane, Rt. 1, Box 459, Galesburg, Mich. '34 FORD sta. wag. Restoration almost complete. '48 engine in polished cond.; new tires. A beautiful, rare car. \$550. Fillmore Condit, P.O. Box 922, Solvang, Calif.

'32 CORD L-29 conv. cpe. Restored in '57—black lacquer, green strip; new green leather uph., chrome, top, carpets. 1st place '58 Auburn L-29 meet. \$2750. Vincent E. Furnas Jr., 4420 Greenbriar Rd., Louisville 7, Ky.

'39 CADILLAC 61 4-dr. sed. Clear plastic seat covers over fine orig. uph. 56,000 orig. mi., exc. 7.00x16 tires; car in daily use. \$500. Capt. Charles M. Baker, 4413 Iowa Ave., Tampa 11, Fla. Phone 67-6111.

'39 CADILLAC 60 4-dr. sed. Body in exc. cond. tires good. New rings & rod bearings. Best offer C. D. Jurs, Box 223, Brookville, Pa. Phones Vinewood 9-5334 (days) and Vinewood 9-5839 (eves.).

'39 CADILLAC 61-S sed. Good body, engine & transmission. Needs \$75 worth of work on frame. Top bid takes. R. Chisham, Men's Dormitory, Washburn Univ., Topeka, Kan.

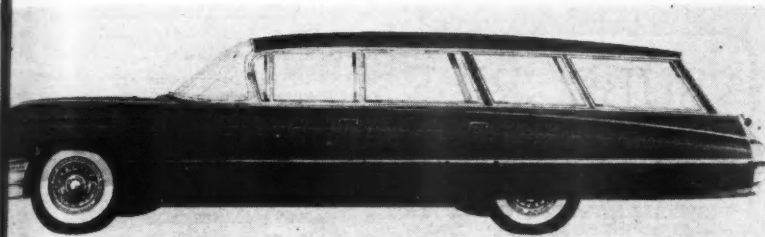
'32 LINCOLN 7-pass. limousine. Alum. body, aluminum block engine. Good running cond., good tires. Real needs repairs, front uph. worn. \$200 or best offer. Dominick Romano, 92 Elm St., Newark, N.J. Phone MI 3-0297.

'35 PIERCE-ARROW Model 845 sed. in exc. cond. 1 owner, 1 driver; 57,000 mi. Sidemounts; 2 new tires, 4 good tires. Best offer accepted. James G. Harkins, 7 Maple St., Norwalk, Conn.

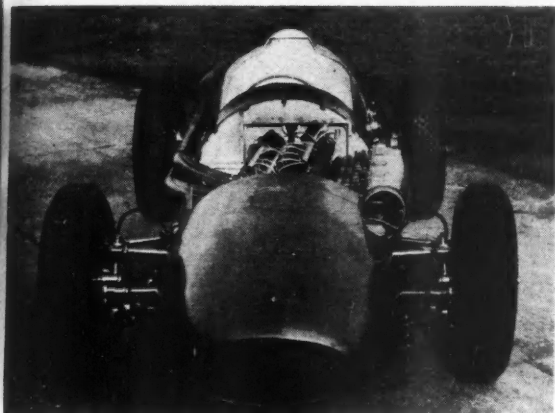
SELL OR SWAP

'39 CADILLAC 61 V8 4-dr. sed. Moleskin grn. stock thruout. Mint cond., 41,000 orig. mi.; needs nothing. Sell or trade on '37-'40 4-dr. conv. or '36 '37 Cord in good cond. Pat Runyan, 4637 Chickering Ave., Cincinnati 32, Ohio.

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Cadillac "Estate Carriage" made to order for Stengel, carrossier in Hollywood, is being hand-crafted in London for several Cadillac dealers. A more streamlined high-fashion bodywork model will be made in Italy. The purchaser is free to make some alterations.



Aston Martin has done 2.5-liter (152 cu.-in.) engine with aluminum block and head, two plugs per cylinder, three dual-choke Webers, free-speed gearbox. Front suspension, wishbones; rear by de Dion.

33 AUBURN Model 161 V-12 boat-tail speedster. Speedometer reads 1222 orig. mi. Needs restoring—stored 23 years in leaky garage. All letters answered. Roy Kosowski, 1747 Pitkin Ave., Brooklyn 12, N.Y. Phone HY 5-0617 after 8 P.M.

32 CITROEN 6-cyl., front-drive 4-dr. sed. New hand-rubbed green metallic finish. All new chrome.



31 CADILLAC conv. sed. \$1800 firm—its price suggests its cond. Will trade for orig., complete & restorable Auburn speedster. Will consider other offers, or phaetons. Bill Hammer, 159 16th Ave., San Mateo, Calif.

WANTED

'38 BUICK 4-dr. sed. with sidemounts. Prefer Roadmaster, but will consider Century or Limited. Must be sharp all-around. R. S. Brenner, 516 Harriet Lane, Havertown, Pa.

FOR '27 BUICK cpe.: 1 rt. door handle (with lock & key), 1 kick plate, crank, & 5 new tires size 6.00 x 21. T. W. Bunnell, 15 Stanley Oval, Westfield, N.J.

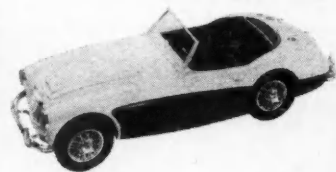
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CHRYSLER Town & Country conv. Must be in good cond., with restorable wood. Send price & pix. David J. Ainsworth, 101 Crestview, Marshalltown, Iowa.

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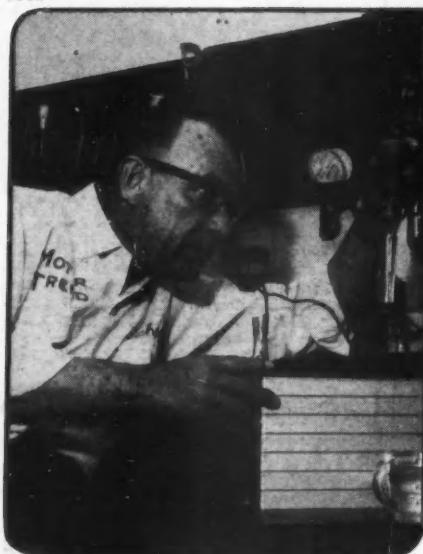


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MOTOR TREND/JULY 1959 81

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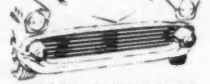
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1959 CHEVROLET



1958 CHEVROLET



1957 CHEVROLET



1956 CHEVROLET



1955 CHEVROLET

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